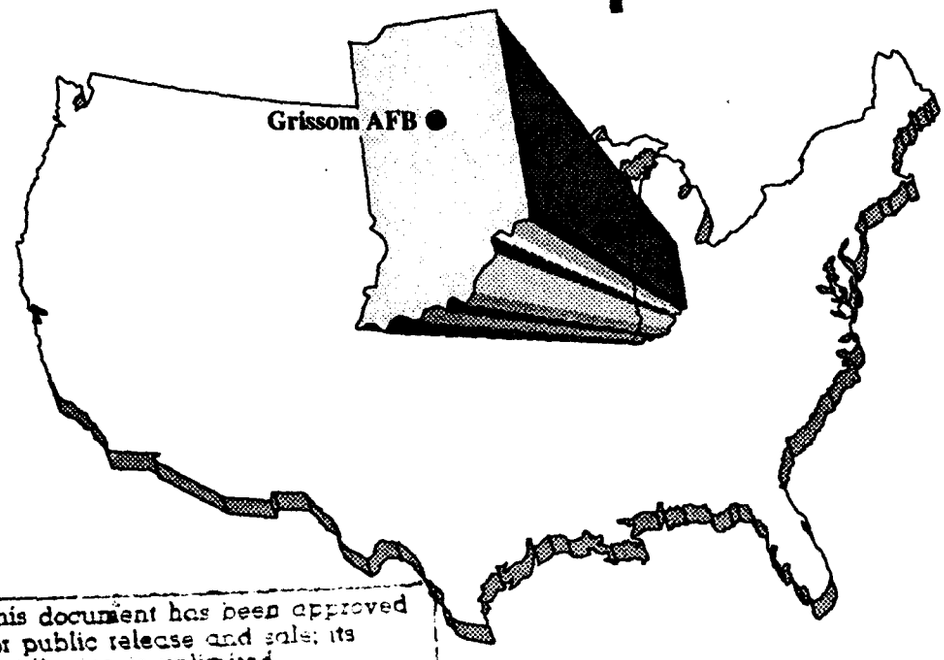
SOCIOECONOMIC IMPACT ANALYSIS STUDY

August 1993



DISPOSAL AND REUSE OF GRISSOM AIR FORCE BASE, INDIANA

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SUMMARY

Grissom Air Force Base (AFB), Indiana, was one of the bases recommended by the 1991 Defense Base Closure and Realignment Commission for closure. The Commission's recommendations were accepted by the President and submitted to Congress on July 12, 1991. As Congress did not disapprove the recommendations in the time given under the Defense Base Closure and Realignment Act (DBCRA) of 1990 (Public Law [P.L.] 101-510, Title XXIX), the recommendations have become law.

DBCRA requires the Secretary of Defense to comply with the National Environmental Policy Act (NEPA) in the implementation of the base closures and realignments. The Secretary of Defense, through the Air Force, is preparing the required NEPA documents for the base disposal. Consideration of closure is exempted under DBCRA because that decision is final under the statute. The *Environmental Impact Statement for the Disposal and Reuse of Grissom AFB, Indiana,* analyzes environmental effects of the disposition of the base and its reuse under alternative redevelopment plans.

This Socioeconomic Impact Analysis Study addresses the socioeconomic effects of closure and potential reuse of the base. This document is designed to provide assistance to local governments and redevelopment agencies in the development of their reuse plan. The scope of this study includes economic activity, population, housing, public services, public finance, transportation, and utilities. This document is not required by NEPA.

The primary mission of Grissom AFB was to provide a training location for the 305th Bombardment Wing, which was deactivated in 1970 with the creation of the 305th Air Refueling Wing. In 1992, the base came under the control of Air Mobility Command. The transfer and consolidation of these Air Force activities to other Air Force bases in the United States has been initiated. The base contains an airfield, a medical clinic, residential commercial, industrial, and public recreation areas.

The 434th Wing of the U.S. Air Force Reserve which includes both the 434th and 930th Operations Groups, will remain within the cantonment upon closure. The DBCRA allowed for the retention of the 434th Wing within a cantonment; therefore, all redevelopment, including the No-Action Alternative, integrates a military cantonment for the 434th Wing. A U.S. Army Reserve unit will also remain within the cantonment upon closure. A total of 1,289 personnel, including 1,227 reserve personnel and 62 Operating Location (OL), will be employed in the cantonment.

If the base is placed in caretaker status and not reused for other purposes, most or all of the "mothballed" facilities outside the military cantonment would be restricted from access. Security and minimal maintenance activities would provide only limited employment opportunities on the base. A total of 50 direct and 12 secondary jobs would be required to maintain the premises. This closure and caretaker scenario, including the military cantonment, serves as the closure baseline and No-Action Alternative for this study.

A four-county area (Miami, Howard, Cass, and Wabash) was initially considered the region of influence (ROI) for purposes of describing and analyzing the socioeconomic effects. The ROI was then refined for each issue area as appropriate.

In the absence of any reuse of the base, population in the ROI would fall from 191,206 in 1990 to 184,174 at closure in September 1994. Over the next 20 years, the population in the ROI would increase at a rate of less than 0.1 percent per year, to approximately 184,990 by 2014, based upon Indiana University School of Business population projections.

This report analyzes the socioeconomic effects of two conceptual plans involving reuse of the base by private and public entities. Both plans are compared with projected post-closure conditions without reuse during the 20 years following base closure. The alternative plans are the following:

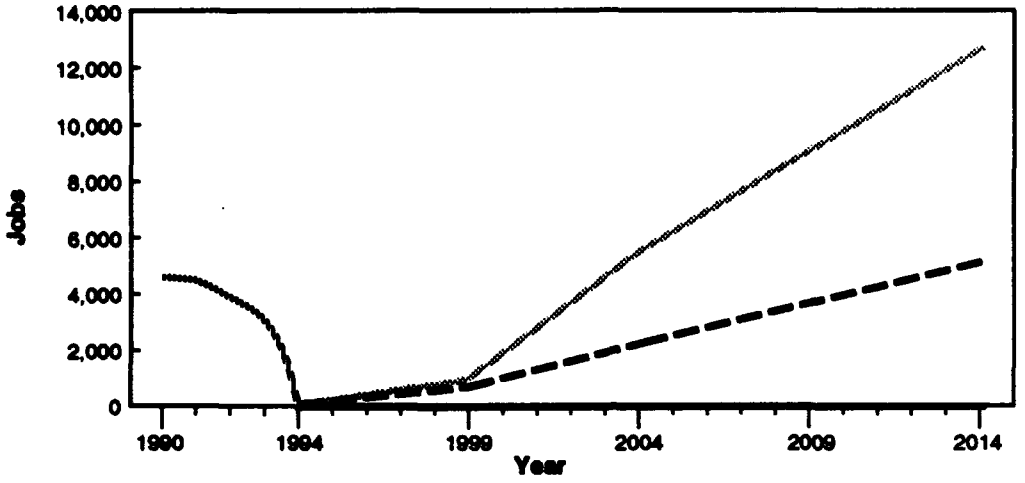
Proposed Action. Major land use components in the Proposed Action would include military (1,576 acres), industrial (629 acres), and commercial (307 acres) areas and comprise 92 percent of the proposed land uses. Institutional (educational), public/recreation, and vacant land constitute the remainder of the proposed uses.

Military/Joint Use Aviation Alternative. Major land use components in the Military/Joint Use Aviation Alternative would include military (1,576 acres), residential (274 acres), and commercial (248 acres), and comprise approximately 77 percent of the proposed land use. Aviation support, industrial, institutional (educational), public/recreation, agricultural, and vacant land constitute the remainder of the proposed uses.

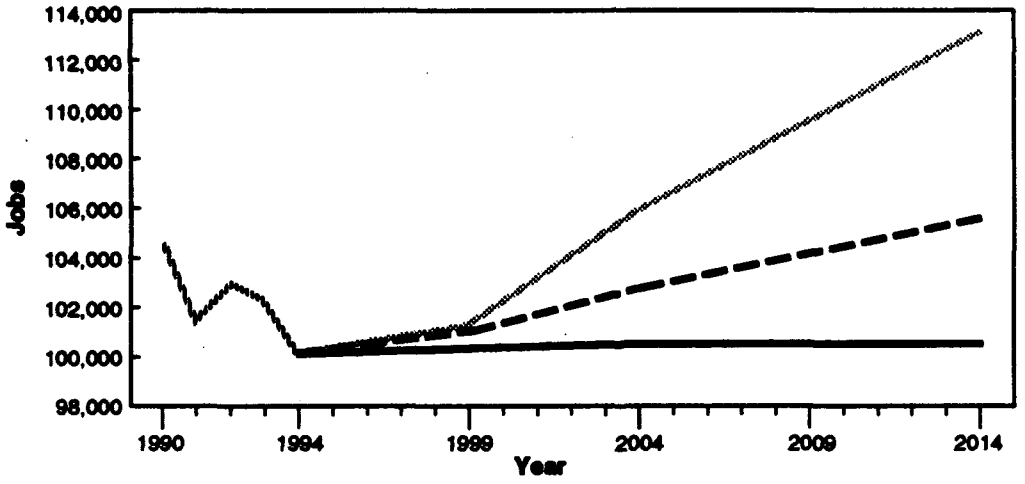
The net effects of reuse on the communities in the vicinity of Grissom AFB would vary with the reuse alternative implemented. The net effects are the total reuse direct and secondary employment and population, decreased by the OL (No-Action Alternative) and the 434th Wing employment and population. Figures S-1 and S-2 illustrate the projected profile of changes in future employment and population within the ROI for each of the reuse alternatives and the No-Action Alternative. Key findings of this study include the following:

ALTERNATIVE	1994 (a)	1999	2004	2014
Proposed Action	1,289	933	5,342	12,532
Military/Joint Use Aviation	1,289	686	2,244	5,106

Reuse-Related Employment Effects (b)



Reuse-Related Employment Effects (b)



Total ROI Employment Including Reuse-Related Effects

EXPLANATION

- Preclosure
- Proposed Action
- Military/Joint Use Aviation Alternative
- No-Action Alternative

Reuse-Related Employment Effects

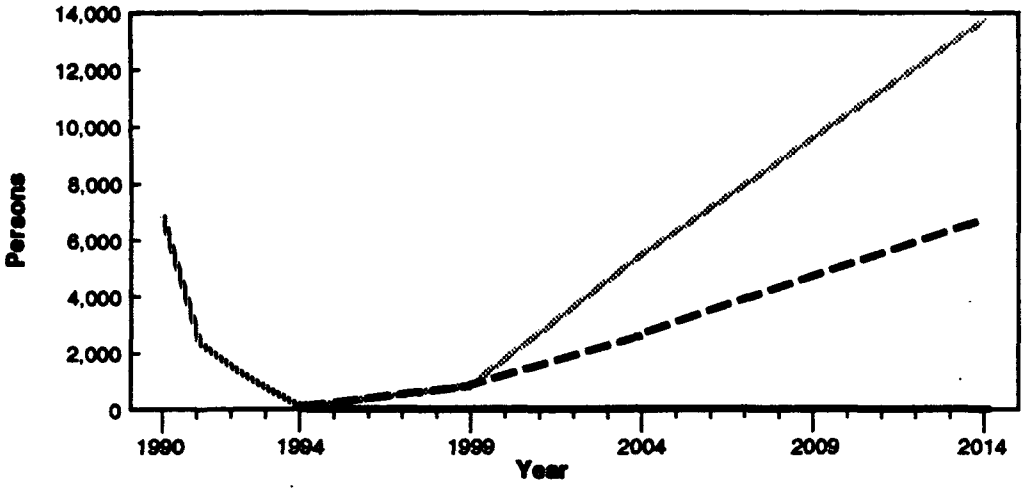
(a) The 1994 values represent total base-related employment under the closure baseline.

(b) Employment effects represent the change in employment relative to the No-Action Alternative.

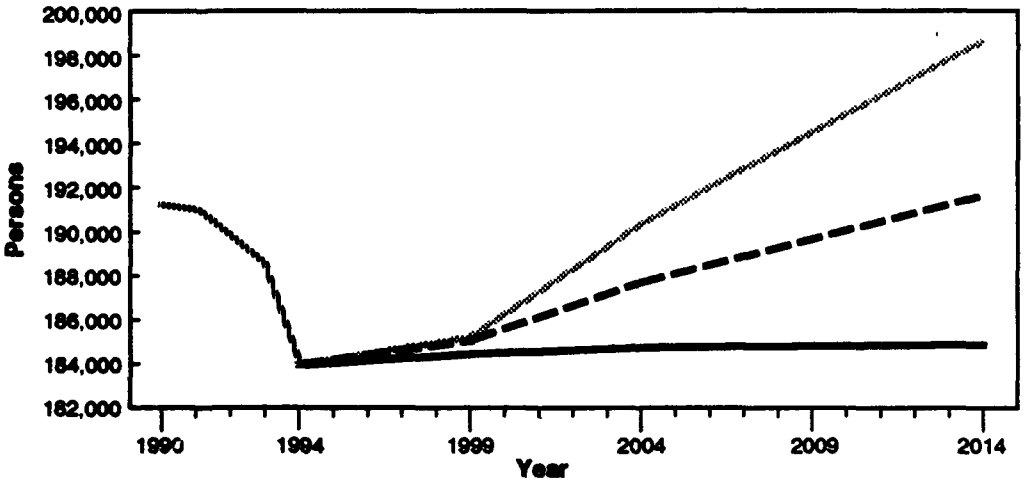
Figure S-1

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Proposed Action	0	908	5,462	13,729
Military/Joint Use Aviation	0	760	2,745	6,817

Migratory-Related Population Effects (b)



Migratory-Related Population Effects (b)



Total ROI Population Including Migratory-Related Effects

EXPLANATION

- Preclosure
- Proposed Action
- Military/Joint Use Aviation Alternative
- No-Action Alternative

Migratory-Related Population Effects

(a) 1994 represents closure conditions.
(b) Migratory (Reuse)-related population effects are the persons that would move into the ROI solely as a result of reuse.

Figure S-2

- Under the Proposed Action, an increase of 6,991 direct jobs is projected by the year 2014, with an additional 5,541 secondary jobs. It is estimated that population would increase in response to these employment opportunities by 13,729 by 2014. Fiscal shortfalls due to base closure would be reversed for most of the jurisdictions studied, with the exception of Maconaquah School Corporation and Peru Community School Corporation, where the loss of P.L. 81-874 funding would not be offset by increases in other revenue sources.

- The Military/Joint Use Aviation Alternative would generate an increase of 3,709 direct and 1,397 secondary jobs by 2014, approximately 41 percent of the employment effects of the Proposed Action. Population is projected to increase in response to these employment opportunities by 6,817 by that same year. Similar to the Proposed Action, fiscal shortfalls would be reversed for most of the jurisdictions studied, with the exception of Maconaquah School Corporation and Peru Community School Corporation, where the loss of P.L. 81-874 funding would not be offset by increases in other revenue sources. Kokomo-Center Township Consolidated Schools Corporation would be faced with a deficit as well.

Under the No-Action Alternative, the 434th Wing would continue to operate the airfield and military cantonment. The airfield would also be used by other transient military aircraft. The remainder of the base would be in caretaker status and minimally maintained.

Table S-1 summarizes the comparative findings of this study for each issue area and each reuse alternative after 20 years. The table also displays findings for the No-Action Alternative to provide a benchmark for assessing the effects of a particular alternative relative to closure conditions.

Table S-1. Comparison of Reuse Alternatives
Page 1 of 3

Resource	No-Action/Caretaker Status	Change from No-Action Alternative: Proposed Action	Change from No-Action Alternative: Military/Joint Use Aviation
Economic Activity[a]			
Regional Employment	1,289 jobs	12,532 jobs	5,106 jobs
Regional Earnings (1989$)	$32,637,000/year	$241,723,000/year	$88,863,000/year
Population	Zero effect	13,729 people	6,817 people
Housing	Zero demand	4,718 units	2,343 units
Public Services			
General Government, Police, and Fire			
Miami County	Zero demand	8,068 additional persons served	4,112 additional persons served
Town of Bunker Hill	Zero demand	569 additional persons served	292 additional persons served
City of Peru	Zero demand	3,363 additional persons served	1,715 additional persons served
Howard County	Zero demand	3,828 additional persons served	1,861 additional persons served
City of Kokomo	Zero demand	2,315 additional persons served	1,131 additional persons served
Education			
Maconaquah School Corporation	Zero enrollments	475 enrollments	241 enrollments
Peru Community School Corporation	Zero enrollments	602 enrollments	304 enrollments
Kokomo-Center Township Consolidated School Corporation	Zero enrollments	381 enrollments	183 enrollments

Note: (a) All effects presented in this table apply specifically to the year 2014 but may be interpreted as long-duration effects that extend indefinitely beyond 2014. Economic Activity, as shown, is based upon site-related demands. Population, Housing, Public Services and Public Finance are based upon migratory-related demands.

Table S-1. Comparison of Reuse Alternatives
Page 2 of 3

Resource	No-Action/Caretaker Status	Change from No-Action Alternative: Proposed Action	Change from No-Action Alternative: Military/Joint Use Aviation
Public Services (Continued)			
Health Care	Grissom AFB clinic closed	Clinic closed	Clinic closed
Public Finance (1989$)[b]			
Miami County	Shortfalls to $217,123 per year	Positive; shortfalls offset by 2002	Positive; shortfalls offset by 2006
Town of Bunker Hill	Shortfalls to $4,928 per year	Positive; shortfalls offset by 2001	Positive; shortfalls offset by 2002
City of Peru	Shortfalls to $7,560 per year	Positive; shortfalls offset by 2002	Positive; shortfall offset by 2005
Howard County	Shortfalls to $37,342 per year	Positive; shortfalls offset by 2002	Positive; shortfalls offset by 2006
City of Kokomo	Shortfalls to $31,555 per year	Positive; shortfalls offset by 2002	Positive; shortfalls offset by 2006
Maconaquah School Corporation	Shortfalls to $1,529,960 per year	Shortfalls of $1,184,398 by 2014	Shortfalls of $1,354,633 by 2014
Peru Community School Corporation	Shortfalls to $72,303 per year	Shortfalls of $14,692 by 2014	Shortfalls of $43,210 by 2014
Kokomo-Center Township Consolidated School Corporation	Shortfalls to $25,119 per year	Positive; shortfalls offset by 2011	Shortfalls of $9,376 by 2014

Note: (b) Projected shortfalls assume there are no offsetting changes in revenues or service delivery standards.

Table S-1. Comparison of Reuse Alternatives
Page 3 of 3

Resource	No-Action/Caretaker Status	Change from No-Action Alternative: Proposed Action	Change from No-Action Alternative: Military/Joint Use Aviation
Other Relevant Resources			
Transportation	Base-related traffic reductions on key local roads offset by projected increases in area traffic volumes	Traffic increases on key roads due to reuse	Moderate traffic increases on key roads due to reuse
Utilities	Projected demand in utilities ROI for water, wastewater treatment, solid waste disposal, electricity, and natural gas would be slightly higher than the closure levels, due to slight increase in ROI population.	32 to 77 percent increase over post-closure projections in ROI utility demand	16 to 31 percent increase over post-closure projection in ROI utility demand

ROI = Region of Influence.

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1.0 INTRODUCTION

Chapter 1 presents the purpose of this study, briefly discusses the reason for and nature of the closure of Grissom Air Force Base (AFB), reviews results of previous base closures, and defines the potential reuse alternatives in terms relevant to the analysis of socioeconomic effects.

This report is organized to provide an assessment of the socioeconomic characteristics and effects of base operation, the effects of alternative reuse scenarios on the region, and the post-closure conditions for activities related to the base property assuming the base remains in caretaker status and is not redeveloped. The remainder of the report is structured as follows:

Chapter 2 defines the region of influence (ROI) and provides the community setting and profile of personnel, payrolls, and activities at the base.

Chapter 3 establishes the preclosure reference and conditions for the area at base closure and assumes the Air Force Reserve 434th Wing would retain operations in a cantonment, and the remaining portions of the base would remain in caretaker or "mothballed" status.

Chapter 4 evaluates the effects of alternative reuse plans and compares them to the post-closure conditions without reuse.

1.1 PURPOSE OF THE STUDY

The Socioeconomic Impact Analysis Study (SIAS) focuses on the socioeconomic effects resulting from the closure and potential reuse of Grissom AFB. The scope of issues addressed includes economic activity, population, housing, and other major issues of local concern, such as public services, public finance, transportation, and utilities. These issues substantially influence the character of communities in the vicinity of the base, and are important to local residents. The analysis of these issues is intended to provide local planning officials with necessary information with which to plan for changes at Grissom AFB. The SIAS is not a National Environmental Policy Act (NEPA) document.

The *Environmental Impact Statement (EIS) for Disposal and Reuse of Grissom AFB, Indiana,* analyzes the environmental issues associated with disposal of the base and its reuse under a range of potential redevelopment plans. The EIS was initiated to fulfill NEPA requirements that apply to federal actions, such as the decision for final disposition of Grissom AFB. Socioeconomic factors are addressed within the EIS only from the perspective of their potential effect on the biophysical environment.

For instance, changes in economic activity, particularly in regional spending and employment, may lead to changes in area population, public service demand, and vehicular traffic on the area's road network. These effects, in turn, have the potential for beneficial or adverse environmental consequences on land use, air quality, water quality, noise, and biological and cultural resources.

1.2 CLOSURE OF GRISSOM AFB

In light of the changing international political scene and the resultant shift toward a reduction in defense spending, the Department of Defense (DOD) must realign and draw down its forces. The Department of the Air Force has been tasked under the Defense Base Closure and Realignment Act (DBCRA) of 1990 (Public Law [P.L.] 101-510, Title XXIX) to identify the facilities, properties, and installations that are no longer essential to support the limited force structure authorized by Congress. The Secretary of Defense then provided DOD closure and realignment recommendations to the Defense Base Closure and Realignment Commission, which was formed as a result of the DBCRA.

The 1991 Defense Base Closure and Realignment Commission recommended a list of military bases for closure or realignment that was accepted by the President and submitted to Congress on July 12, 1991. The recommended closure and realignment list was not disapproved by Congress within the time given under the statute to do so. Therefore, under DBCRA, the recommendations have become law. As Grissom AFB was on the Commission's list, the decision to close the base is final. Grissom AFB is scheduled to close in September 1994.

The Air Force plans to dispose of excess and surplus real property and facilities at Grissom AFB. The disposal will be through transfer to another federal agency, public benefit conveyance to an eligible entity, negotiated sale to a public body, and/or sealed bid or auction to the general public. This disposal will be in compliance with the Surplus Property Act of 1944, the Federal Property and Administrative Services Act of 1949, and the DBCRA, which delegated to the Secretary of the Air Force many of the powers of the Administrator of the General Services Administration.

The closure action involves consolidation of Air Force activities and personnel transfers from Grissom AFB to other Air Force bases in the United States and/or a reduction in military forces through retirement of weapon systems and reducing military manpower levels. (U.S. Department of Defense, 1991).

The base closure recommendations for Grissom AFB provided for a cantonment of approximately 1,576 acres to facilitate the retention of the 434th Wing of the Air Force Reserve. Therefore, a portion of the base, referred to as the military cantonment, will not be available for disposal.

For purposes of analysis, the 434th Wing will include all activities within the military cantonment, including the Army Reserves. The military activities associated with the 434th Wing have been included in the closure baseline conditions.

The projected post-closure conditions identified for this study occur once the base has gone into "caretaker status" after the phase-down of residual operations at the base and its subsequent closure. Caretaker status includes provision of security and limited maintenance to keep base facilities in "mothballed" condition.

Analysis of this projected closure scenario, referred to as the No-Action Alternative, provides an assessment of near-term and long-term conditions in communities near the base with the base no longer in operation. This provides a benchmark for comparison of the socioeconomic consequences of the alternative reuse plans.

1.3 PREVIOUS BASE CLOSURES

Because of the potential for severing long-standing social and economic relationships, base closures can be a very disrupting experience for host communities. The future state of the local economy is always of concern, although many communities affected by base closures have successfully implemented installation reuse plans. A study completed by the President's Economic Adjustment Committee indicates that opportunities exist for successful conversion of military installations to civilian use (U.S. Department of Defense, Office of Economic Adjustment, 1990).

Included in the study was a review of the experience of nearly 100 communities that lost a local military base between 1961 and 1990. Several important findings resulted from this review.

- Military jobs that were transferred out of the local communities numbered almost 136,800. These transfers represented permanent long-term reductions in the economic base of the communities.

- Conversion to civilian use led to a total of 158,100 direct jobs, more than replacing the 93,400 DOD civilian and contractor jobs lost due to the closings.

- Fifty-seven former bases became the seat of a number of four-year colleges, community colleges, and post-secondary vocational-technical programs. These schools accommodate 73,200 college students, 25,000 secondary vocational-technical students, and 62,200 trainees.

- Seventy-five former bases became host to industrial parks or plants, and 42 established municipal or general aviation airports.

The study concluded that, in the short term, closure can have substantial negative effects on the local economy. The difficult transition period generally lasts 3 to 5 years (U.S. Department of Defense, Office of Economic Adjustment, 1990).

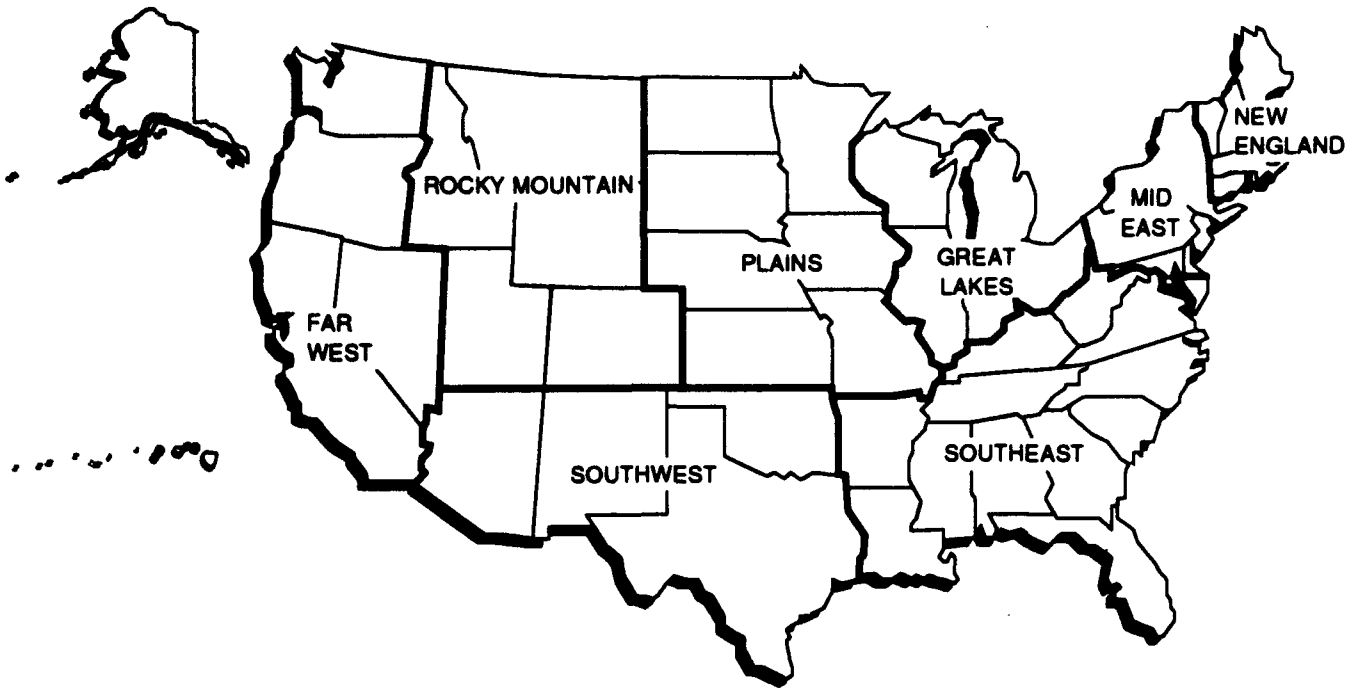
Figure 1.3-1 provides employment statistics for 48 Air Force installation closure and reuse actions completed between 1961 and 1990. These Air Force actions resulted in the transfer of approximately 100,000 military personnel. About 28,500 on-base civilian jobs were lost in these actions. More than 70,000 civilian jobs were gained due to reuse of the sites. Considering individual installations, in most cases the number of civilian jobs in 1990 was greater than when the base was under military control. In only about 20 percent of the cases, however, does the number of new civilian jobs exceed the number of civilian and military jobs lost as a result of base closure.

1.4 REUSE OPTIONS

To help identify potential socioeconomic effects associated with the disposal of Grissom AFB, this study addresses two reasonable reuse alternatives. For the purpose of conducting the required analysis, the Air Force has adopted the redevelopment plans developed by the Grissom Redevelopment Authority (GRA) (formerly the Grissom Community Redevelopment Authority) as the Proposed Action. In addition, the Air Force has also analyzed the effects associated with another reasonable reuse alternative, the Military/Joint Use Aviation Alternative, and a No-Action Alternative that involves no reuse. Actual decisions on reuse of the property will be made by its recipients subsequent to disposal.

The Proposed Action for reuse of Grissom AFB is discussed in Section 1.4.1, and the Military/Joint Use Aviation Alternative is discussed in Section 1.4.2. The No-Action Alternative is discussed in Section 1.4.3, and represents post-closure conditions. Section 1.4.4 discusses Other Land Use Concepts, which include property conveyances to a non-federal agency for specific facilities or portions of the base property that are not included within the reuse alternatives.

Under the reuse alternatives, the acreage proposed to be utilized includes 2,722 acres of base fee-owned and leased property. Table 1.4-1 lists the proposed reuse activities by type of use and the proposed acreage of each use (reported acreages throughout this document are approximate).



REGION	No. of Bases Closed	Military Jobs Transferred	Civilian Jobs Lost	New Civilian Jobs on Base
1. New England	5	11,241	921	9,947
2. Mid East	3	4,064	11,085	4,298
3. Great Lakes	6	7,595	2,453	10,380
4. Plains	7	18,502	3,129	9,530
5. Southeast	10	22,103	3,349	20,252
6. Southwest	9	24,472	6,058	10,942
7. Rocky Mountain*	3	3,663	336	307
8. Far West	5	8,539	1,093	4,421
Total	48	100,179	28,424	70,077

* Data for one AFB not available.
Source: U.S. Department of Defense, Office of Economic Adjustment, 1990.

Summary of Air Force Installation Closure and Reuse Actions Completed between 1961 and 1990

Figure 1.3-1

Table 1.4-1. Land Use Acreage by Alternative

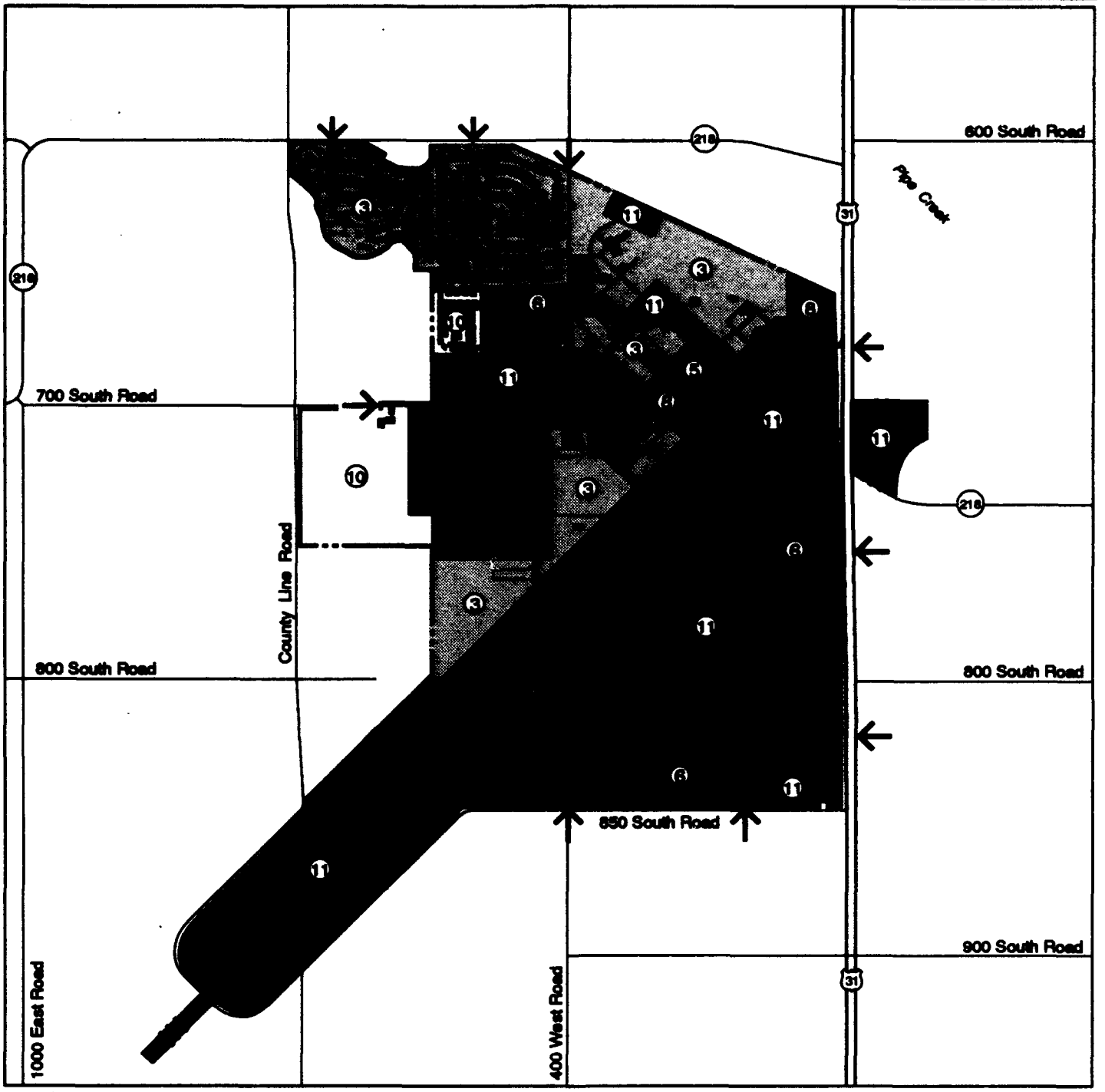
Land Use	Proposed Action	Military/Joint Use Aviation Alternative
Aviation Support	0	203
Industrial	629	68
Institutional (Educational)	23	24
Commercial	307	248
Residential	0	274
Public/Recreation	25	149
Agriculture	0	136
Vacant Land	162	44
Military	1,576	1,576
Total	2,722	2,722

1.4.1 Proposed Action

The Proposed Action is a comprehensive reuse plan for Grissom AFB centered around a military use airport with related civilian, industrial, and commercial uses, totaling 2,512 acres. The remaining 210 acres on base include institutional (educational), public/recreation, and vacant land uses (Figure 1.4-1). Under the Proposed Action, the airfield and aviation support areas are classified as military as the 434th Wing would continue aircraft operations. Operations associated with the 434th Wing and other transient aircraft are addressed under the military land use category.

Industrial. The industrial land use area covers 629 acres, or 23 percent of the base area, and consists of three distinct components. Heavy industrial land use would be developed on the former residential area in the northwest corner of the base. Light industrial uses would occur on the golf course, clinic, and dormitory areas in the north central portion of the base. In addition, light industrial and warehousing uses would occur in the portions of the aircraft parking apron and vacant land areas in the central and western sections of the base. Development would be complete by 2014, with existing facilities being used during the first 10 years. New development would begin in 2004.

Institutional (Educational). The institutional land use area comprises 23 acres (1 percent of the base area) east of the cantonment adjacent to the airfield clear zone (CZ). The Miller Building and other administrative buildings would be reused under this alternative. No building demolition is proposed for this land use and reuse would occur in the first 10 years.



EXPLANATION

- 1 Airfield *
- 2 Aviation Support *
- 3 Industrial
- 4 Institutional (Medical) *
- 5 Institutional (Educational)
- 6 Commercial
- 7 Residential *
- 8 Public/Recreation
- 9 Agriculture *
- 10 Vacant Land
- 11 Military
- Base Boundary
- Access Points

0 725 1450 2900 Feet

* Standard land use designation not applicable to this figure.

Proposed Action

Figure 1.4-1

Commercial. The commercial land use area comprises 307 acres, or 11 percent of the base area, and is divided into three parcels. A 35-acre parcel south of the base housing includes the child care center, theater, recreation center, commissary, base exchange, credit union, and a fast-food facility. The second parcel is a 61-acre area north of the Weapons Storage Area (WSA) that includes part of the alert apron. A 211-acre parcel in the southern area of the base is the third portion of this land use. Both areas south of the runway would include the development of new retail complexes with frontage on U.S. Highway 31. No building demolition is proposed and reuse would be complete by 2004. New retail development would occur after 1999 and development would be completed by 2014.

Public/Recreation. The public/recreation land use area covers 25 acres, or 1 percent of the base area, and is located within two noncontiguous parcels on the main base. Reuse facilities within this land use category include the indoor swimming pool, bowling center, and gymnasium east of the military cantonment. The area north of the main base entrance would continue to be used by the Grissom AFB Heritage Museum. Reuse of all recreation facilities would occur throughout the first five years, beginning in 1994.

Vacant Land. Two areas totaling 162 acres, or approximately 6 percent of the base acreage, would be reused as open space. A 136-acre parcel would be located on the west side of the base, and an area of 26 acres would be located in the southern end of the residential area. To convert these parcels to open space, 53 housing structures, 2 small warehouses, and the horse stables would be demolished during the first five years after closure, beginning in 1994.

Military. The military land use areas retained by the 434th Wing would consist of six parcels known as the military cantonment, totaling 1,576 acres, or approximately 58 percent of the base area. The largest parcel, located on the eastern side of the base, would include the airfield and the WSA, with its associated explosive safety zones. The second area includes the western end of the operational aircraft parking apron, the National Emergency Airborne Command Post facility, six nose dock hangars, Airport Rescue and Fire Fighting Station, bulk fuel storage facility, and aircraft maintenance shops. These facilities would be served by administrative and training facilities located on the western portion of the cantonment, and base supply facilities located throughout these areas. Other military facilities include a transmitter/receiver facility in the southeast corner of the base, six dormitories located adjacent to the golf course, the wastewater treatment plant (WWTP) north of the base clinic, and the aircraft CZ land east of U.S. 31. The U.S. Army Reserve would continue operations in one facility within the military cantonment. The cantonment would be secured by perimeter fencing built prior to closure.

1.4.2 Military/Joint Use Aviation Alternative

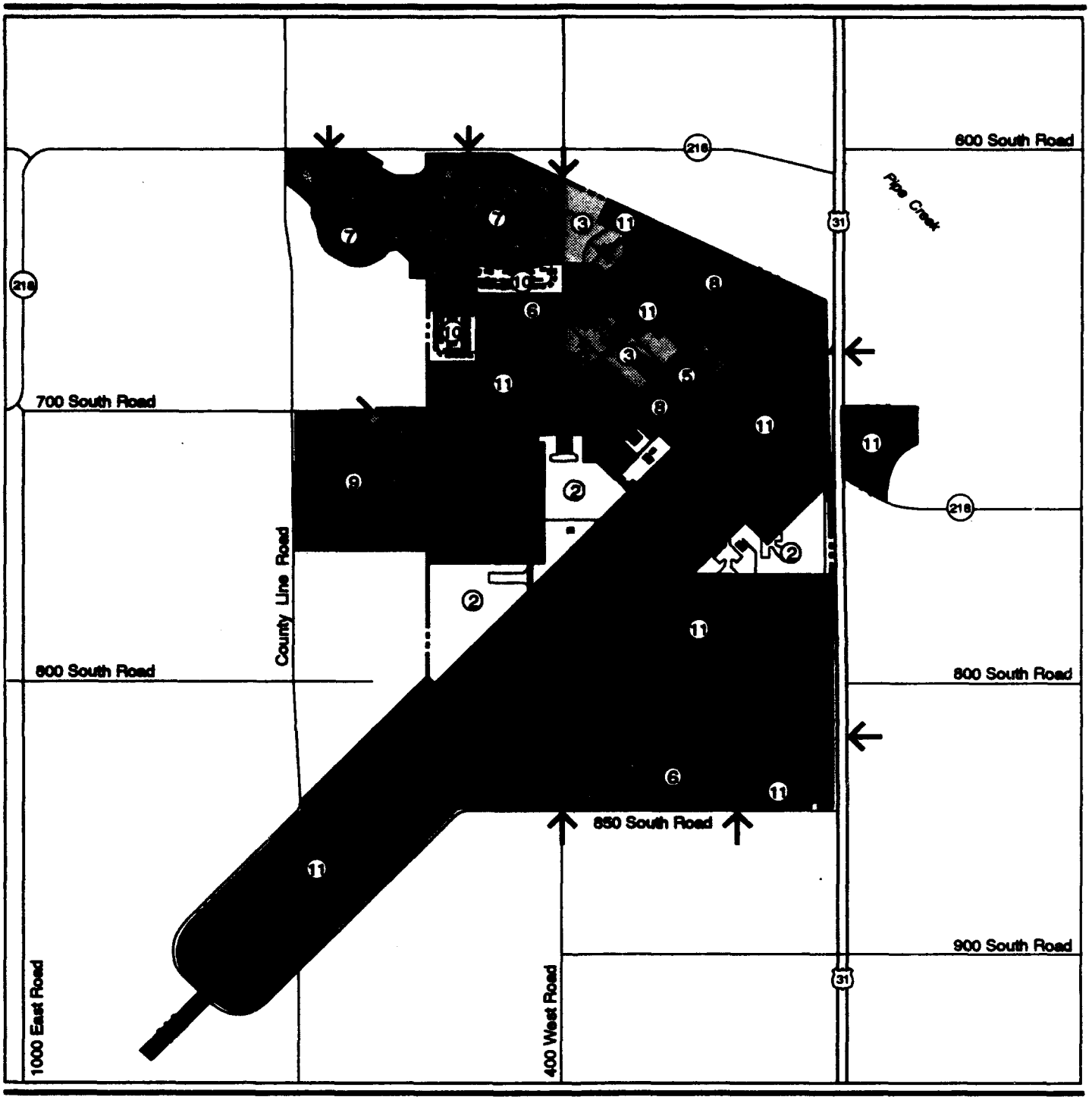
The Military/Joint Use Aviation Alternative (Figure 1.4-2) provides for the joint use of the Grissom AFB airfield by the 434th Wing and a variety of civilian aviation uses. The airport would be operated by the 434th Wing, or a civil airport authority who would have the option to operate the airport with the 434th Wing as a tenant. Civilian aviation would include general aviation, air cargo, airline flight training, and an aviation school. Civilian land uses of this alternative include industrial, institutional (educational), commercial, residential, public/recreation, agriculture, and vacant land. The total acreage for each land use category is shown in Table 1.4-1.

Under the Military/Joint Use Aviation Alternative there is no airfield land use category, although there would be both civilian and military aircraft operations. All airfield operations including civilian operations are addressed under the military land use category since the airfield would continue to be owned and operated by the 434th Wing. However, a civil airport authority would have the option to operate the airport with the 434th Wing as a tenant. The layout of the airfield would be the same as the Proposed Action except a new taxiway would be constructed to allow greater airfield access.

Aviation Support. The aviation support land use category includes 203 acres, or approximately 7 percent of the base area, and consists of an area in the center of the parking apron. The area contains a hangar, aviation equipment maintenance shops, administrative offices, base operations facilities, warehouses, and a portion of the alert facility. Approximately 78 acres located southwest of the operational apron and 61 acres north of the WSA would be available for redevelopment. The proposed reuse activities and functions within this land use area include civilian aviation support, a Fixed Base Operator to support general aviation aircraft, cargo operations, and airline flight training. Development of this land use would occur throughout the 20-year analysis period.

Industrial. The industrial land use category comprises two parcels totaling 68 acres, or approximately 3 percent of the base acreage, and are located in the northern portion of the base. The intended uses are light industry and assembly activity. The older dormitories and the base clinic would be demolished in order to accommodate new industrial development. Development would begin in 1994 and be complete by 2014.

Institutional (Educational). A 24-acre area, or 1 percent of the base acreage, located in the central area of the base would be used for aviation training. The old Wing Headquarters, two community facilities, and the data processing building would be demolished between 1994 and 1999 to accommodate this land use.



EXPLANATION

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- 10 Vacant Land
- 11 Military
- Base Boundary
- Access Points

0 725 1450 2900 Feet

* Standard land use designation not applicable to this figure.

Military/Joint Use Aviation Alternative

Figure 1.4-2

Commercial. The commercial land use category includes 248 acres, or 9 percent of the base acreage, and is located in two areas. The first is the 37-acre parcel south of the base housing which includes the child care center, theater, recreation center, commissary, base exchange, credit union, and a fast-food facility. Demolition of the visiting officers' quarters, officers' quarters, and a family housing building is proposed for implementation of this land use. The remaining 211 acres are located at the southern end of the base, adjacent to 850 South Road. This site would be developed for retail uses. Reuse of the retained facilities would continue throughout the 20-year period; new development would start after 2004 and be 25 percent complete by 2014.

Residential. The residential land use category comprises 274 acres, which is approximately 10 percent of the base residential area. To reduce housing density, demolition is proposed for 98 of the 976 units. Reuse of approximately 20 percent of the retained units would start in 1999 and continue through 2014.

Public/Recreation. The public/recreation land use category includes 149 acres, or approximately 5 percent of the base area. Reuse facilities include the Grissom AFB Heritage Museum, golf course, indoor swimming pool, gymnasium, and bowling center. Demolition of the hobby shop and the temporary education facilities adjacent to the golf course is proposed under this land use. Reuse would occur between 1994 and 1999.

Agriculture. One 136-acre parcel, equivalent to 5 percent of the base area, would be converted to agricultural land uses. This parcel is located in the western portion of the base adjacent to County Line Road. Two small warehouses and the horse stables would be demolished prior to reuse. Agricultural reuse would begin within the first 5 years of the analysis period.

Vacant Land. Two vacant parcels totaling 44 acres, or 2 percent of the base area, would be created. The first parcel would serve as an open space buffer between the military cantonment and the eastern base boundary, and would be created by demolishing the 42 southernmost residential units. A second open space buffer between the residential area and the proposed commercial area would be created with the demolition of 36 residential units during the first 5 years after closure.

Military. The military land use area would include the military cantonment, WWTP, dormitories, a transmitter/receiver facility, airfield, and the WSA with explosive safety zones, totaling 1,576 acres, or 58 percent of the base property. This reuse would be the same as the Proposed Action, except the airfield would be jointly used by the community and the military. The airfield would be owned and operated by the 434th Wing in accordance with Air Force regulations. Civilian use of the airfield would be arranged through host tenant letters of agreement between the Federal Aviation Administration (FAA) and the Air Force. This reuse plan is based on the

assumption that the Peru Municipal Airport would be closed and all of its aviation activity relocated to Grissom AFB.

Some taxiway construction would be required for this alternative to allow aircraft ground circulation between the approach end of the runway and the civilian aviation area. This construction would also allow civilian aircraft access to the aviation support facilities without encroaching on military cantonment property.

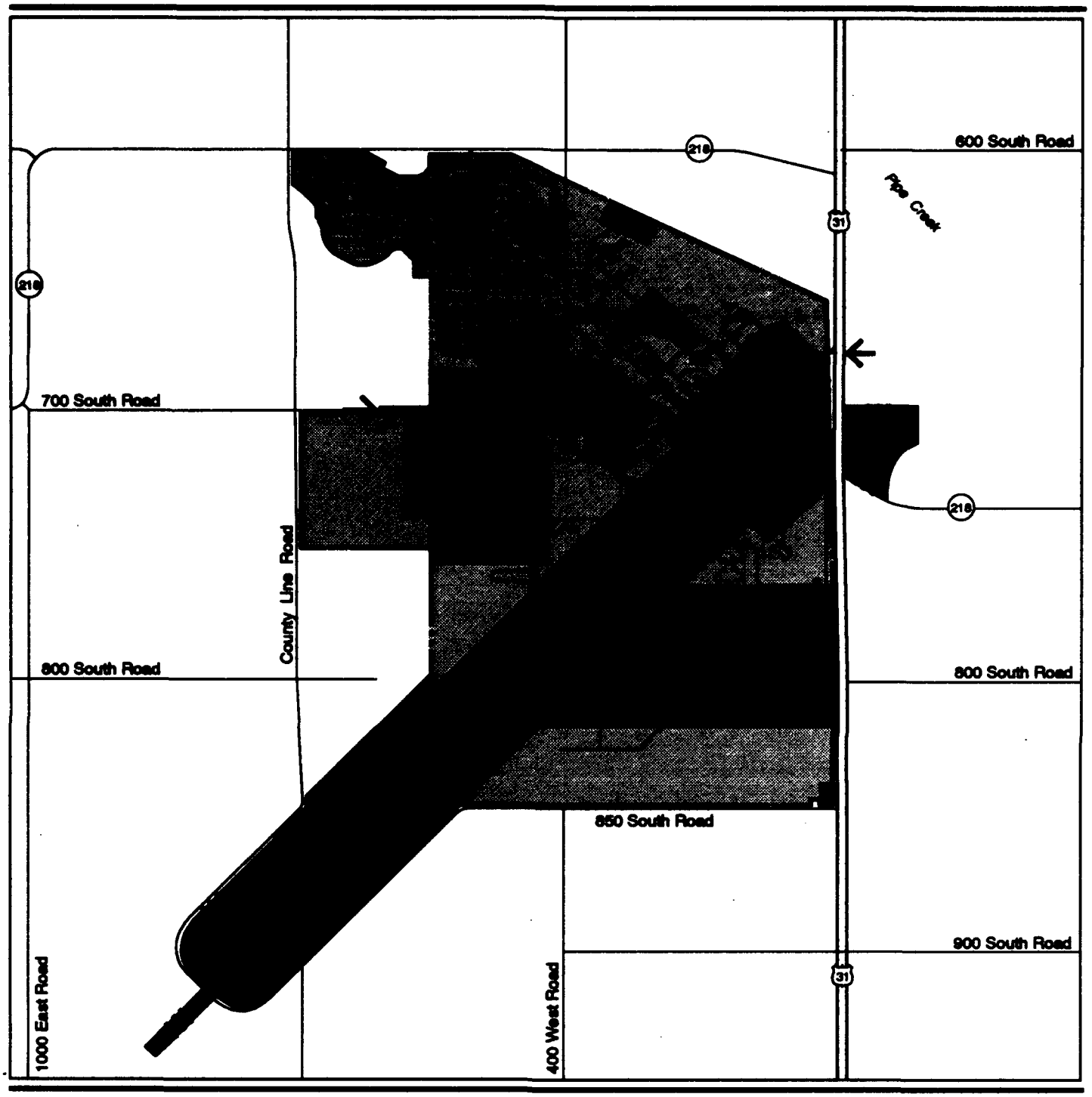
1.4.3 No-Action Alternative

Under the No-Action Alternative, the 434th Wing would continue to operate within the military cantonment and airfield (Figure 1.4-3). The remainder of the base would be put to no further use and placed under long-term caretaker status. The military land use would be the same as the Proposed Action and the Military/Joint Use Aviation Alternative.

The remaining portions of the base would be preserved, i.e., placed in a condition intended to limit deterioration and ensure public safety. An Air Force Base Disposal Agency Operating Location (OL) made up of 10 Air Force and 40 contractor personnel would be provided to ensure base security and maintain the grounds and physical assets, including the utilities and structures. The responsibilities of this team include coordinating post-closure activities, establishing a caretaker force to maintain Air Force properties after closure, and serving as the Air Force local liaison supporting community reuse. For the purposes of analysis, it was assumed that the caretaker team would comprise approximately 50 people at the time of closure. In addition, 928 direct employees would be associated with the cantonment activities.

The future levels of maintenance would be as follows:

- Maintain structures in "mothballed" condition to limit deterioration
- Isolate or deactivate utility distribution lines on base
- Provide limited maintenance of roads to ensure access
- Provide limited grounds maintenance of open areas to eliminate fire, health, and safety hazards
- Maintain golf course in such a manner as to facilitate economical resumption of use.



EXPLANATION

- Caretaker Status
- Military
- Base Boundary
- Access Points

0 725 1450 2900 Feet

No-Action Alternative

Figure 1.4-3

1.4.4 Other Land Use Concepts

This section describes proposed federal property transfers and conveyances to non-federal agencies. These property transfers and conveyances are not part of any integrated reuse option.

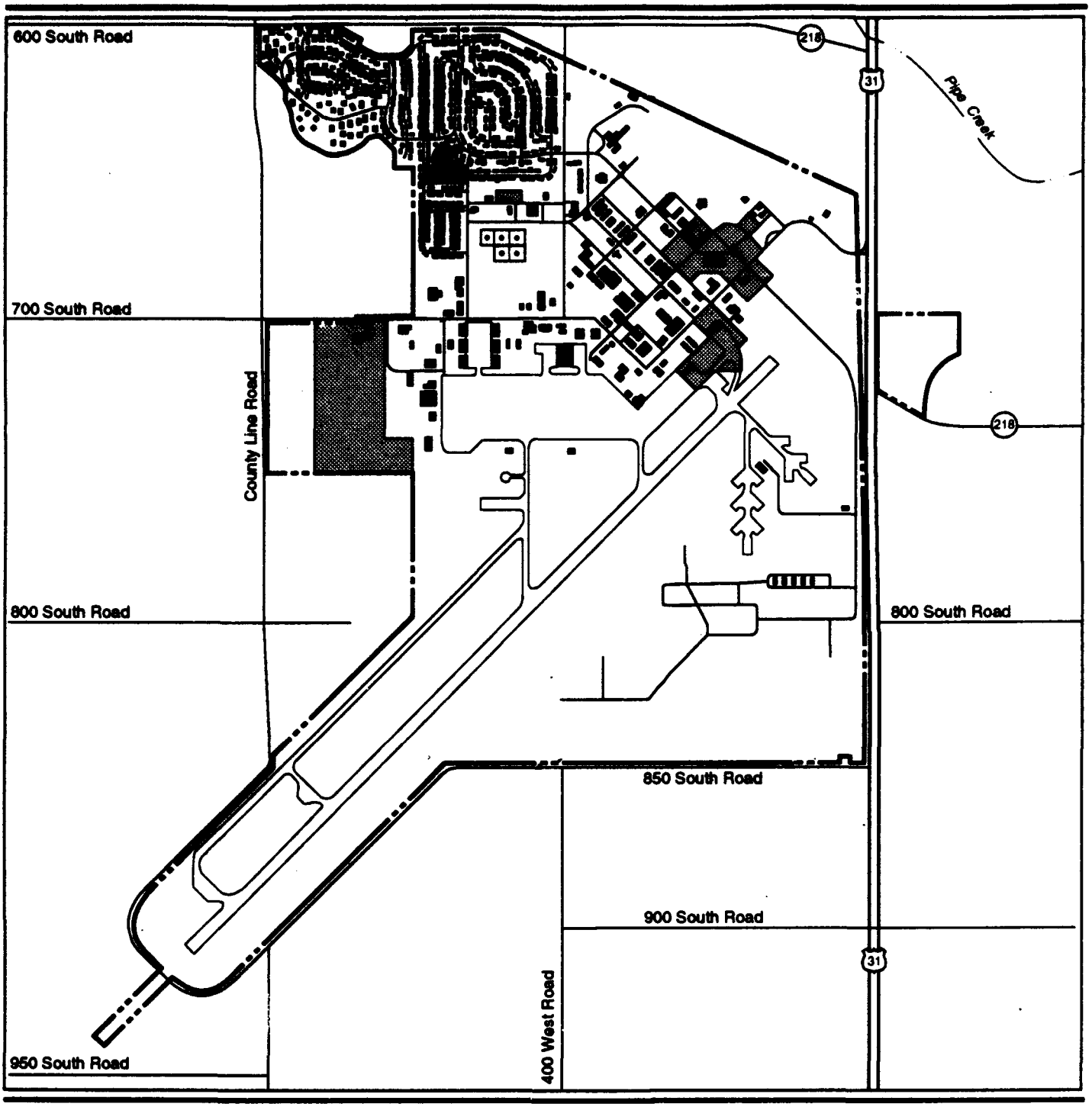
In compliance with the Federal Property and Administrative Services Action of 1949, the Air Force solicited proposals from other federal agencies regarding their interest in acquiring any lands or facilities identified for disposal at Grissom AFB.

One non-federal proposal has been received by the Air Force, which has not been captured within the analysis of the reuse alternatives. The state of Indiana has proposed a Public Safety Training Institute (PSTI) for Grissom AFB. This section describes the independent land use proposal, which could be implemented individually or in combination with any of the reuse alternatives (Figure 1.4-4).

Public Safety Training Institute. The state of Indiana has an interest in 135 acres, or 5 percent of the base area, for a PSTI proposed by the State Emergency Management Agency. The safety training program activities include classroom instruction and simulated or live emergency training. Activities would take place seven days per week and would involve 200 to 500 trainees and up to 75 permanent and part-time instructors.

PSTI support facilities include administrative offices, technical and academic dormitories for trainees, and staff residences. PSTI facilities would be located in three areas. Outdoor training activities would occur on a 79-acre parcel on the west side of the base. The converted maintenance hangars located at the northeast end of the runway, along with adjacent aircraft aprons, are proposed for reuse as emergency driver training and equipment storage facilities.

A variety of support facilities to be reused, located in the east and north side of the central portion of the base, include the Miller Building, the base supply administration office, tennis courts, softball field, picnic area, 19 family housing units, and the base theater. Temporary housing for trainees would be provided by three base dormitories.



EXPLANATION

Public Safety Training Institute

Base Boundary

Other Land Use Concepts

0 650 1300 2600 Feet

Figure 1.4-4

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2.0 COMMUNITY SETTING AND REGION OF INFLUENCE

This chapter describes the community setting in which Grissom AFB is located. In addition, the ROIs for the various issues (economic activity, population, housing, public services, public finance, transportation, and utilities) are also identified.

2.1 COMMUNITY SETTING

Military use of the site now known as Grissom AFB began in July 1942 when it was used as a Navy flight training center during World War II. At that time, the installation was called the Bunker Hill Naval Air Station.

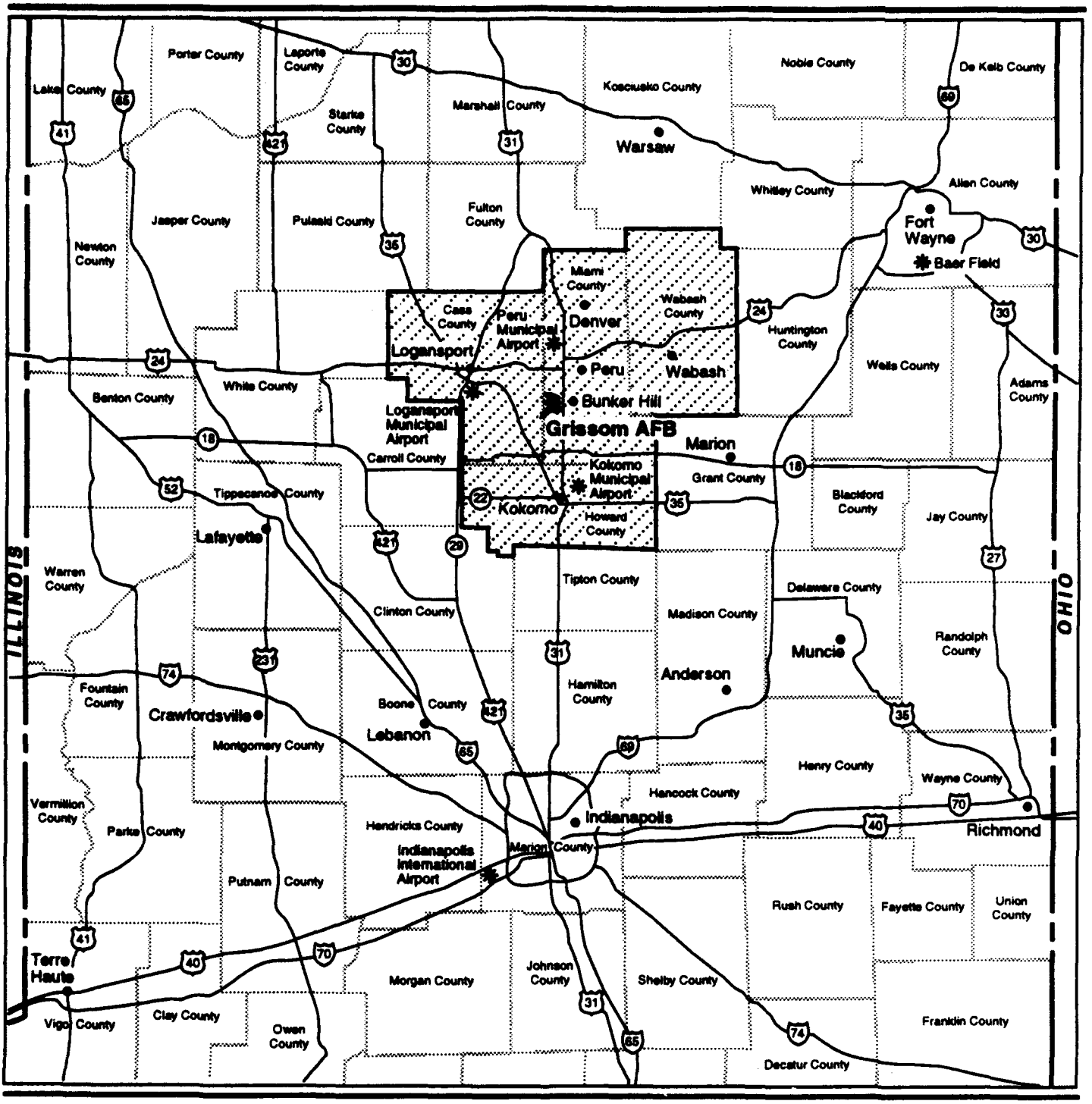
In June 1954, the facility became Bunker Hill AFB, a Tactical Air Command base, and became a Strategic Air Command base in May 1957. In May 1968, the base was renamed for Lt. Col. Virgil I. "Gus" Grissom, who was killed in January 1967 at Cape Kennedy (U.S. Air Force, 1992c). As of June 1992, Grissom AFB became an Air Mobility Command Base.

Grissom AFB, which contains 2,722 acres, is located in Miami and Cass counties in north central Indiana, approximately 65 miles north of Indianapolis and 115 miles southeast of Chicago, Illinois. The base is located about 1 mile from the town of Bunker Hill, about 6 miles southwest of the city of Peru, and about 14 miles north of the city of Kokomo (Figure 2.1-1).

Grissom AFB adjoins U.S. Highway 31 (U.S. 31) approximately 6 miles south of its intersection with U.S. 24. U.S. 31 is the main highway running between Indianapolis and South Bend, Indiana. The area has rail freight service but no rail passenger service. The closest commercial airport is in Indianapolis, with municipal airports located in Kokomo and Peru.

Miami County and surrounding areas offer fishing, hunting, boating, camping, and other recreational opportunities. State parks and waterways in the region provide natural attractions. Mississinewa Lake and Miami, Red Bridge, and Frances Slocum State Recreation Areas are located within 15 miles of the base.

Manufacturing provides more regional jobs than any other major industrial sector, followed by the services, retail trade, and government sectors. Electronics and automotive products manufacturers are the largest employers in the area. While agriculture is not the dominant industrial sector within the area, it is an important contributor to the economy and lifestyle. Grissom AFB itself supported approximately 3,527 active duty military and civilian personnel in 1990. Since 1980, employment growth in the area has



EXPLANATION

- Major Airports
- Interstate Highway
- U. S. Highway
- State Highway
- County Boundary
- ROI Boundary

0 5 10 20 Miles

Regional Map

Figure 2.1-1

been slower than for the nation as a whole, and population levels have decreased over the same period.

Approximately 82 percent of active duty military and civilian personnel assigned to Grissom AFB (including the 4,000 persons living on base) reside in Miami County (principally in and around the communities of Peru and Bunker Hill). Another 13 percent live in Howard County (principally in and around the city of Kokomo). In addition, smaller numbers of personnel live in Cass (4 percent) and Wabash (less than 1 percent) counties.

Peru and Bunker Hill in Miami County, and Kokomo in Howard County, are the principal support communities for the base. Other communities in the area include the city of Logansport and the towns of Walton and Galveston in Cass County and the community of Miami, southeast of the base in Miami County.

The city of Peru is located about 6 miles northeast of Grissom AFB, had a 1990 population of 12,843 people, and is home for about 12 percent of those who work at the base. The city is built up primarily along the east-west routes of old U.S. 31 and U.S. 24 and the north-south route of State Highway (SH) 19. The northern portion of the city has several industrial park sites and most of the newer residential development is located in the unincorporated area west of town, near U.S. 31.

The town of Bunker Hill, home to 2 percent of base workers, is a small (approximately 1,010 population in 1990) community located approximately one mile east of the base.

The city of Kokomo, with a 1990 population of 44,962, is located about 14 miles south of the base, and is home to about 8 percent of base personnel. The southern part of the city contains agricultural land, with most of the commercial development occurring in the western portion of the city. Residential areas are found in both of these sections of the city. The northern and eastern portions contain light manufacturing and warehousing.

Several units of local government provide services to the population associated with Grissom AFB. These jurisdictions include Miami County, Howard County, the cities of Peru and Kokomo, and the town of Bunker Hill. The Maconaquah School Corporation provides public elementary and secondary education services to children living on Grissom AFB and the town of Bunker Hill, while the Kokomo-Center Township Consolidated School Corporation serves public educational needs in the Kokomo area, and the Peru Community School Corporation serves the residents of the city of Peru.

Utilities are provided to Grissom AFB from both on-base and off-base sources. The base derives its water from on-base wells. The base

wastewater is treated at the on-base wastewater treatment plant. Solid waste generated on base is hauled to the Byers Recycling and Disposal Facility in Logansport and to Wabash Landfill in Wabash County by private contractors. Base electricity is purchased from Public Service Company of Indiana (PSI Energy). Natural gas, along with coal, fuels the base's central heating system, and is supplied to the base by Northern Indiana Public Service Company (NIPSCO). Conversion of the base heating plant is natural gas and is to be completed by September 1994.

Utilities for the adjacent communities are provided by Peru Utilities for water supply and wastewater systems, PSI Energy for electricity, NIPSCO for gas, and Waste Management of Central Indiana for solid waste. Some communities provide their own water, wastewater, and solid waste services.

2.2 REGION OF INFLUENCE

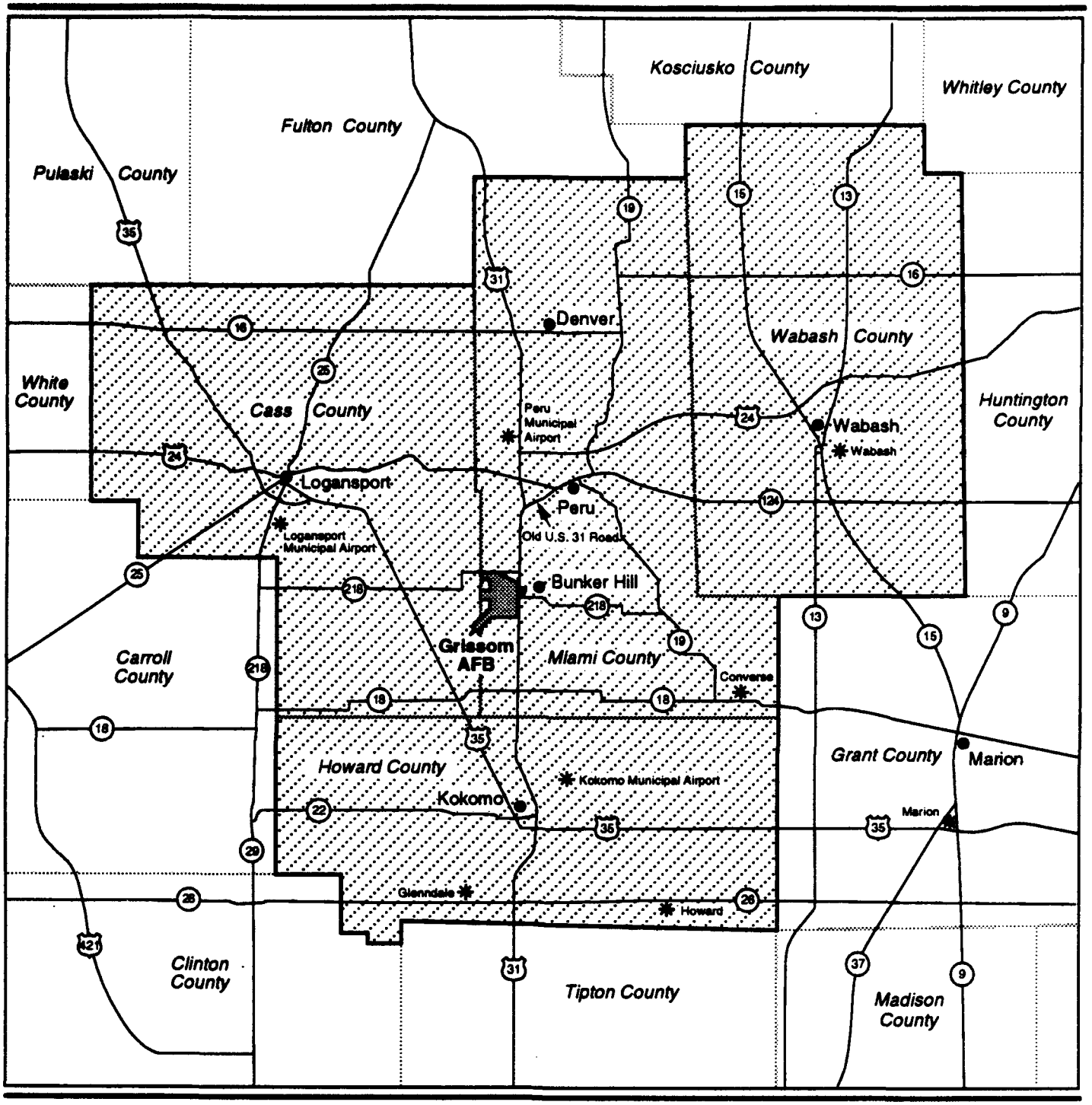
The ROI is defined as the region in which the principal direct and secondary socioeconomic effects of closure and reuse actions at Grissom AFB are likely to occur and are expected to be of most consequence for local jurisdictions (Figure 2.2-1). It is important to note that the ROI may vary from one issue area to another.

Two factors were important in determining the ROI used in this analysis. The first was the distribution of residences for military and civilian personnel stationed at Grissom AFB in 1992. This residential distribution is not only an aid in determining where the greatest effects of closure would occur, but also provides a guide to where the possible effects of reusing the base would occur as well, since it reflects the revealed preferences of those employed at the base. Data for this residential distribution were obtained by zip code for all personnel employed at the base for whom data were available.

The second factor in determining the extent of socioeconomic effects is the degree of linkage among the economies of the various communities in the region. This linkage, based on trade among sectors within the region, determines the nature and magnitude of multiplier effects of actions at the base. While both the residential locations of Grissom AFB personnel and the nature of economic interactions in the region helped define the ROIs for this analysis, other specific socioeconomic factors such as service area boundaries were also used in selection of ROIs discussed in this document.

Economic Resource Impact Statements

Regional purchases associated with Grissom AFB, including both base spending for goods and services and base personnel spending of payrolls, are reported in Grissom AFB's *Economic Resource Impact Statements* (ERISs). The ERISs for the past 5 federal fiscal years (FYs), 1987 through



EXPLANATION

- 31 U. S. Highway
- 22 State Highway
- Airport
- County Line
- ROI Boundary

0 2 4 8 Miles

Region of Influence

Figure 2.2-1

1991, were examined. The regional expenditures cited in these statements are reported for an area within a 50-mile radius around the base, which includes the counties of Miami, Howard, Cass, and Wabash, and all or parts of 27 other counties in the central Indiana area. While this 50-mile radius serves as a departure point in defining the ROI, it is oftentimes too wide an area for pinpointing where the socioeconomic effects could occur within the region. Consequently, this 50-mile radius was not used to define the ROIs.

Economic Activity

Most demands associated with regional economic effects of base closure are anticipated to be concentrated within Miami, Howard, Cass, and Wabash counties. It is anticipated that almost all of the regional reuse demands associated with construction and operation payroll expenditures, and most of the demands associated with construction and operation goods and services expenditures, could occur within this four-county ROI. Potential secondary effects that may occur outside the ROI are expected to be minimal after dispersion and are excluded from further analysis.

In 1990 there were a total of 104,680 jobs in the ROI. Howard County accounted for about half of all the jobs in the ROI, with the remaining jobs fairly evenly divided among the other three counties. Manufacturing jobs were 31.4 percent of the ROI total. All government (federal military, federal civilian, state, and local) accounted for 15.6 percent of total 1990 ROI jobs. The services and retail trade sectors each accounted for about 17.0 percent of 1990 ROI jobs. All other sectors accounted for the remaining 19.0 percent of ROI jobs.

Delco Electronics Corporation in Kokomo is the area's largest private employer, with approximately 10,500 employees. The Chrysler Motors Kokomo Transmission Plant is another principal employer in the area with approximately 4,300 employees. The largest employers in Peru are the Square D Company with approximately 600 employees, and United Technologies with about 400 employees. Other prominent industries in the area include food processing, metal and rubber products processing and manufacturing, electric and electronic systems manufacturing, aluminum building product manufacturing, and other industrial support services. While services, retail trade, and state and local government are major employment sectors in the region, the jobs in these sectors are dispersed with no dominant employer identified in any of them.

Feedcorn and soybeans are the primary agricultural products in the ROI. In 1992, average feedcorn production in the area was 137 bushels per acre, 26 percent higher than the 1991 U.S. average. Soybean yields in the area averaged 42.3 bushels per acre, 24 percent higher than the 1991 national average. (Hart, 1992; Kokomo Development Corporation, 1992; Vanlaur, 1992).

Grissom AFB also contributes to the ROI's economic base. Grissom AFB employed 3,527 military and civilian personnel as of September 30, 1990. Military employment was 3.3 percent of the total ROI jobs in 1990, well above the state average of 1.2 percent and national average of 1.9 percent.

The number of jobs in the ROI grew at an average annual rate of 0.6 percent for the 20-year period from 1970 through 1990 and at about the same rate during the more recent 1980-1990 decade. This increase occurred despite a decline in the civilian labor force of 0.7 percent per year during this same period. The divergent rates in jobs and labor force resulted in a decline in the ROI unemployment rate from 12.9 percent in 1980 to 6.3 percent in 1990, which may have been caused by an increase in the number of persons in the ROI working multiple jobs; and a rise in the number of commuters from outside the ROI filling jobs within the ROI. By comparison, state-wide job growth rates of 1.5 percent and 1.6 percent, and national rates of 2.1 percent and 2.0 percent occurred between 1970-1980 and 1980-1990, respectively.

Population

Population effects from the closure and potential reuse of Grissom AFB were analyzed for the four-county ROI of Miami, Howard, Cass and Wabash counties, including the cities of Peru and Kokomo and the town of Bunker Hill. The ROI accounts for about 99 percent of the places of residence of civilian and military personnel employed at Grissom AFB. Kokomo, Peru, and Bunker Hill are the principal support communities for the base.

There were 1,211 military retirees living in the ROI in 1990, approximately one-half the number of active duty military assigned to the base in that year.

The population in the ROI totaled 191,206 in 1990, having decreased at an average annual rate of 0.7 percent between 1980 and 1990. From 1970 to 1980 the ROI population increased at an average rate of 0.3 percent annually.

From 1980 to 1990 Miami, Howard, Cass, and Wabash counties decreased in population at average annual rates of 0.8 percent, 0.7 percent, 0.6 percent, and 0.4 percent, respectively. The population of Peru and Kokomo decreased annually by 0.7 and 0.6 percent, respectively, while the population in Bunker Hill increased by 0.3 percent annually between 1980 and 1990.

Housing

Housing effects from the closure and reuse of Grissom AFB were analyzed for the ROI, defined as Miami, Howard, Cass, and Wabash counties, and the cities of Peru and Kokomo and the town of Bunker Hill. Because housing

effects are expected to follow the distribution of population effects as discussed above, the ROI is the same for housing issues as it is for population issues

Total ROI housing units numbered 77,486 in 1990, having increased an average of 72 units (0.1 percent) annually since 1980. All four counties experienced almost no growth in housing, with gains in Howard County (0.3 percent) the greatest recorded in the ROI. Cass and Wabash counties experienced declines (0.1 percent) in housing. These declines may be the result of the older housing stock not being replaced due to the decreasing population and a resultant decrease in housing demand. This flat trend in housing is consistent with the recent declines in population experienced in the ROI.

Public Services

The ROIs for the public services analysis (i.e., general government, public education, police and fire protection, and health care) are the principal jurisdictions that have the closest linkages to Grissom AFB. These are the jurisdictions providing services directly to Grissom AFB military and civilian personnel or their dependents, those having public service and facility arrangements with the base, and those likely to be most affected by potential reuse of the base.

Potentially affected jurisdictions include the municipal governments of Miami and Howard counties, the cities of Peru and Kokomo, and the town of Bunker Hill. School corporations that would be affected by closure and reuse of the base include the Maconaquah School Corporation, the Peru Community School Corporation, and the Kokomo-Center Township Consolidated School Corporation.

Miami and Howard counties provide building inspection, road work, public safety services, judicial services, health care, and social services. The cities of Peru and Kokomo and the town of Bunker Hill provide planning and building services, recreation and community services, public works, police, and fire protection.

The Grissom AFB Fire Department has mutual aid agreements with other area fire departments, including the Pipe Creek, Peru, and Kokomo fire departments.

The Maconaquah School Corporation provides public elementary and secondary education to the town of Bunker Hill and to 72.7 percent of the students associated with Grissom AFB. The corporation does not operate any schools on base but does own and operate an elementary school immediately adjacent to the base housing area. Student enrollment in the Maconaquah School Corporation has decreased in the past 4 years with fall

1992 enrollment at 98.5 percent of the fall 1989 level. In fall 1992, a total of 1,066 dependents of military and civilian personnel associated with the base, or 38.9 percent of Maconaquah School Corporation enrollments, were related to Grissom AFB. Of that total, 916 were active duty military dependents.

The Peru Community School Corporation provides public elementary and secondary education to 17.7 percent of the students associated with Grissom AFB. Student enrollment has decreased in the past 4 years with fall 1992 enrollment at 98.3 percent of the fall 1989 level. In fall 1992, a total of 322 or 11.4 percent of Peru Community School Corporation enrollments were related to Grissom AFB. Of that total, 100 were active duty military dependents.

The Kokomo-Center Township Consolidated School Corporation provides public elementary and secondary education to about 9.6 percent of the students associated with Grissom AFB. Student enrollment has decreased in the past 4 years with fall 1992 enrollment at 97.1 percent of the fall 1989 level. In fall 1992, a total of 232 or 3.1 percent of Kokomo-Center Township Consolidated School Corporation enrollments were related to Grissom AFB. Of that total, 58 were military dependents.

Indiana University at Kokomo, Purdue University-Kokomo, and the Indiana Vocational Technical College, with the office of admissions in Kokomo and instructional centers at Grissom AFB, Wabash, and Logansport, are the institutions of higher education closest to Grissom AFB.

Public Finance

The ROI for public finance consists of the local governmental units that are expected to receive the majority of effects from base closure and/or potential reuse. These jurisdictions include Miami and Howard counties, the cities of Peru and Kokomo, and the Maconaquah School Corporation, the Peru Community School Corporation, and the Kokomo-Center Township Consolidated School Corporation.

These local government units provide services to Grissom AFB area residents using funds raised principally through taxes, charges to community residents and local organizations for services, state transfers, and federal transfers.

The Maconaquah School Corporation received general fund revenues from federal, state, local, and other miscellaneous sources. Federal financing included $1.1 million from the Federal Impact Assistance Program (P.L. 81-874). State funding is tied to enrollment and attendance levels.

The Peru Community School Corporation received general fund revenues from federal, state, local, and other miscellaneous sources. Federal

financing included $17,000 from the Federal Impact Assistance Program (P.L. 81-874). State funding is tied to enrollment and attendance levels.

The Kokomo-Center Township Consolidated School Corporation received general fund revenues from federal, state, and local sources. Federal Impact Assistance Program (P.L. 81-874) funding is not a revenue source for the corporation. State funding is tied to enrollment and attendance levels.

The GRA is a non-profit organization created to formulate plans for reuse of Grissom AFB. Other local economic development organizations, such as the Peru/Miami County Economic Development Corporation, and the Logansport-Cass County Economic Development Foundation, Inc., provide development services for non-base-related development activities.

Transportation

The ROI for the transportation analysis includes portions of Miami, Cass and Howard counties with emphasis on the area surrounding Grissom AFB. Within this geographic area, the analysis examines the principal road, air, and rail transportation networks, including the segments in the region that serve as direct or indirect linkages to the base. Those networks that would be affected during reuse include ones commonly used by military and civilian personnel at Grissom AFB.

The base is located on the west side of U.S. 31, approximately 6 miles south of U.S. 24 (junction east). U.S. 31 is the major north-south highway running between Indianapolis and South Bend, Indiana. U.S. 31 bisects the city of Kokomo and provides a direct link to Grissom AFB.

Four gates provide access onto the base: the Main Gate, located just off U.S. 31, which is used by civilian and military personnel and visitors; the North Gate, used for industrial and commercial deliveries as well as direct access to the base housing area via SH 218 (junction west); the Housing Gate on Norton Avenue, used by on-base residents; and the West Gate on 700 South Road, providing access during peak hours.

The principal rail freight service carriers in the area are Norfolk Southern, Consolidated Rail Corporation, and the Central Railroad Company of Indianapolis. There is no active rail service onto the base. The nearest Amtrak service is approximately 35 miles west of the base in Lafayette, Indiana.

The Kokomo Municipal Airport is approximately 10 miles south of the base and supports general aviation operations. General aviation operations also occur at Peru Municipal Airport, located about 9 miles north of the base. The Indianapolis International Airport is located about 65 miles to the south.

Utilities

The ROI for the utilities analysis (including water supply and distribution, wastewater collection and treatment, solid waste collection and disposal, and energy supply and distribution) generally consists of the service areas of the local purveyors that serve Grissom AFB and the surrounding affected communities, which include Peru, Bunker Hill, Walton, and Miami. Other local communities were much less affected and, therefore, were not included in the ROI for the utilities analysis.

Utility providers include Peru Utilities for water, wastewater, and electricity; (PSI Energy) for electricity; (NIPSCO) for natural gas; and Waste Management of Central Indiana for solid waste.

Utilities are provided to Grissom AFB from both on-base and off-base sources. The base derives its water from on-base wells. The base wastewater is treated at the on-base wastewater treatment plant. Solid waste generated on base is hauled to the Byers Recycling and Disposal Facility in Logansport and to Wabash Landfill in Wabash County by private contractors. Base electricity is purchased from PSI Energy. Natural gas, which partially fuels the base's central heating system, is supplied to the base by NIPSCO. Conversion of the base's central heating system from coal to natural gas is anticipated to be completed prior to closure of the base.

Communities near the base provide some of their own utilities. Peru Utilities provides water, wastewater collection and treatment, and electricity to the city of Peru and some other areas. The towns of Bunker Hill and Walton obtain municipal water from wells and each has its own water and sewer networks and wastewater treatment plant. The community of Miami draws water from individual wells and relies on septic tanks. The city of Peru collects and hauls its own solid waste to the Byers Recycling and Disposal Facility. Solid waste from other communities in the ROI is disposed of by Waste Management at the Byers Recycling and Disposal Facility in Logansport. PSI Energy provides electricity to the communities near the base. NIPSCO supplies natural gas to area communities including the city of Peru.

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3.0 SOCIOECONOMIC CONDITIONS

3.1 INTRODUCTION

This chapter presents recent socioeconomic trends in the region (preclosure conditions), and outlines the effects of base closure (closure conditions) for comparison with projected effects of each potential reuse.

Of particular importance in this analysis are the site-related and migratory effects. Site-related effects are defined as the activities associated with the base area. These would include both direct and secondary employment and the resultant effects on population. Migratory effects are defined to be the persons who would leave the ROI because of closure-related reductions in employment, and the corresponding effects on population, housing, public services, public finance, transportation, and utilities.

The migratory effects are a component of the site-related effects. For example, the site-related employment effects are the total job losses due to closure of the base. Some of these newly unemployed people would leave the region to seek employment elsewhere, thus resulting in migratory effects. The difference between the site-related effects and migratory effects is the portion of people who would lose their jobs due to closure and would remain in the ROI, adding to the available labor pool. Persons unrelated to the site-related activities who would leave the ROI due to closure are not included in the analysis.

The 434th Wing, assigned to Grissom AFB prior to closure, will continue to operate in the cantonment area of the base after closure. The composite reserve wing consists of the 434th Air Refueling Wing and the 930th Tactical Fighter Group, both tenant organizations on the base. Prior to announcement of closure, they depended on the host organization (305th Air Refueling Wing) for day-to-day logistical support. In 1992, the 434th Wing began building its own base operating support group in anticipation of the loss of such support due to closure of the base in September 1994.

A summary of conditions at closure of Grissom AFB is provided in Table 3.1-1. The methods, data, and technical approach used in analyzing regional socioeconomic conditions due to base closure are discussed in Appendix B.

3.2 ECONOMIC ACTIVITY

This section presents recent trends in regional employment, earnings, and income, and describes the effects of base closure. As defined in Chapter 2,

Table 3.1-1. Effects of Closure of Grissom AFB

Resource Category	1990 through Closure in the ROI
Economic Activity	
Employment	Decline of 3,250 direct and secondary site-related jobs
Earnings (1989$)	Decline of 65.1 million/year
Population	
Military-related	Decline of 4,000 on-base and 1,973 off-base residents
Civilian-related	Decline of 840 additional off-base residents (including military retirees)
Housing	Decline in demand of 1,117 off-base units
Public Services	
General Government, Police and Fire	
Miami County	Decline in off-base population served of 1,553
Town of Bunker Hill	Decline in off-base population served of 80
City of Peru	Decline in off-base population served of 720
Howard County	Decline in off-base population served of 913
City of Kokomo	Decline in off-base population served of 546
Education	Decline in ROI enrollments of 1,218 students
Health Care	Grissom AFB medical and dental clinics closed
Public Finance (1989$)	
Miami County	Shortfalls of 217,123 per year
Town of Bunker Hill	Shortfalls of 4,928 per year
City of Peru	Shortfalls of 7,560 per year
Howard County	Shortfalls of 37,342 per year
City of Kokomo	Shortfalls of 31,555 per year
Maconaquah Sch. Corporation	Shortfalls of 1,529,960 per year
Peru Community Sch. Corporation	Shortfalls of 72,303 per year
Kokomo-Center Twp. Con. Sch. Corporation	Shortfalls of 25,119 per year
Other Relevant Resources	
Transportation	Base-related traffic reductions on all local roads, no effects to rail and air transportation
Utilities	Projected demand for water, wastewater treatment, solid waste disposal, electricity, and natural gas would be 20 to 32 percent lower

Note: Although Grissom AFB is scheduled to close in September 1994, data limitations required that most effects be calculated annually. Because 1995 is the first full calendar year following closure, short-term effects were calculated through that year.

ROI = Region of Influence.

most of the regional economic effects of base closure will be concentrated in the ROI comprising Miami, Howard, Cass, and Wabash counties, Indiana.

Recent Trends

Jobs. The number of jobs within the ROI totaled 104,680 in 1990. This key measure of regional economic activity increased between 1970 and 1990 by an average of 0.6 percent per year (Table 3.2-1). This regional job growth rate was 40 percent of the average annual job growth in Indiana (1.5 percent), and 29 percent of the national rate (2.1 percent per year) during the same period. ROI job growth between 1970 and 1980 was 0.5 percent per year, while between 1980 and 1990 the growth rate was 0.6 percent per year.

The increase in the number of jobs occurred despite a decline in the civilian labor force of 0.7 percent per year during this same period. The divergent rates in jobs and labor force resulted in a decline in the ROI unemployment rate from 12.9 percent in 1980 to 6.3 percent in 1990, probably caused by an increase in the number of persons in the ROI working multiple jobs and/or a rise in the number of commuters from outside the ROI filling jobs within the ROI. ROI unemployment rates for 1980, 1989, and 1990 have exceeded those of Indiana and the nation as a whole. The ROI unemployment rate increased to 8.0 percent in 1991 (Zeiger, 1992).

Jobs by Major Sector. The major employment sectors within the four-county ROI are manufacturing, retail trade, services, and government (Figure 3.2-1). The manufacturing sector provided 32,868 jobs in the ROI in 1990, or 31.4 percent of the total ROI jobs that year. Retail trade provided 17,812 ROI jobs in 1990, or 17.0 percent of the total. There were 17,817 services jobs and 16,359 government sector jobs (including state and local government and federal and civilian sectors), or 17.0 percent and 15.6 percent, respectively, of total ROI jobs in that year.

Howard County accounted for more than half of the jobs in the retail and service sectors, and a third of the government sector jobs, primarily in the state and local civilian sector.

More than half of the jobs in the ROI manufacturing sector occurred in Howard County, with a total of 18,038 jobs in 1990. Delco Electronics Corporation in Kokomo is the area's largest private employer, with approximately 10,500 employees. The Chrysler Motors Kokomo Transmission Plant is the second largest private employer in the ROI, with about 4,300 employees. In Peru, the Square D Company with approximately 600 employees, and United Technologies with about 400 employees, are the largest employers. Other prominent industries in the area include food processing, metal and rubber products processing and manufacturing, electric and electronic systems manufacturing, aluminum

Table 3.2-1. Summary of Economic Indicators, Four-County ROI, State of Indiana, and United States

	1970	1980	1989	1990	Average Annual % Change 1970-1990
Miami County					
Total Jobs	17,548	16,151	16,529	16,495	-0.3
Civilian	13,898	13,780	13,774	13,934	0.0
Military	3,650	2,371	2,755	2,561	-1.8
Military, % of Total	20.8	14.7	16.7	15.5	NA
Civilian Labor Force	---	15,850	15,690	15,380	-0.3
Unemployment Rate	---	11.4	5.5	6.2	NA
Earnings Per Job (1989$)	19,317	18,198	18,825	18,533	-0.2
Per Capita Income (1989$)	11,345	12,287	13,841	13,569	0.9
Howard County					
Total Jobs	41,782	45,486	49,661	49,820	0.9
Civilian	41,352	45,115	49,214	49,376	0.9
Military	430	371	447	444	0.2
Military, % of Total	1.0	0.8	0.9	0.9	NA
Civilian Labor Force	---	43,400	40,510	39,300	-1.0
Unemployment Rate	---	15.4	6.0	6.7	NA
Earnings Per Job (1989$)	25,703	27,939	29,224	27,742	0.4
Per Capita Income (1989$)	12,569	14,555	17,018	16,829	1.5
Cass County					
Total Jobs	18,058	18,537	19,986	19,815	0.5
Civilian	17,849	18,352	19,767	19,597	0.5
Military	209	185	219	218	0.2
Military, % of Total	1.2	1.0	1.1	1.1	NA
Civilian Labor Force	---	19,175	20,270	19,350	0.1
Unemployment Rate	---	11.5	5.5	6.1	NA
Earnings Per Job (1989$)	20,474	19,786	18,690	18,326	-0.6
Per Capita Income (1989$)	12,109	13,503	15,680	15,495	1.2

--- = Civilian labor force and unemployment rate data for 1970 were not available for the four counties or the state of Indiana.

NA = Not applicable.

Table 3.2-1. Summary of Economic Indicators, Four-County ROI, State of Indiana, and United States

	1970	1980	1989	1990	Average Annual % Change 1970-1990
Wabash County					
Total Jobs	15,778	17,990	18,341	18,550	0.8
Civilian	15,588	17,836	18,145	18,355	0.8
Military	190	154	196	195	0.1
Military, % of Total	1.2	0.9	1.1	1.1	NA
Civilian Labor Force	---	19,075	17,130	16,900	-1.2
Unemployment Rate	---	9.8	4.4	5.7	NA
Earnings Per Job (1989$)	19,848	18,695	18,865	18,618	-0.3
Per Capita Income (1989$)	11,053	12,658	14,740	14,635	1.4
ROI Total					
Total Jobs	93,166	98,164	104,517	104,680	0.6
Civilian	88,687	95,083	100,900	101,262	0.7
Military	4,479	3,081	3,617	3,418	-1.3
Military, % of Total	4.8	3.1	3.5	3.3	NA
Civilian Labor Force	---	97,500	93,600	90,930	-0.7
Unemployment Rate	---	12.9	5.5	6.3	NA
Earnings Per Job (1989$)	22,495	23,103	23,747	22,892	0.1
Per Capita Income (1989$)	11,963	13,563	15,721	15,528	1.3
State of Indiana					
Total Jobs	2,262,881	2,602,952	3,020,260	3,062,539	1.5
Civilian	2,228,368	2,574,017	2,983,821	3,026,661	1.5
Military	34,513	28,935	36,439	35,878	0.2
Military, % of Total	1.5	1.1	1.2	1.2	NA
Civilian Labor Force	---	2,632,000	2,880,000	2,832,000	0.7
Unemployment Rate	---	9.6	4.7	5.3	NA
Earnings Per Job (1989$)	23,050	22,235	21,679	21,314	-0.4
Per Capita Income (1989$)	12,051	13,912	16,124	16,054	1.4

--- = Civilian labor force and unemployment rate data for 1970 were not available for the four counties or the state of Indiana.
NA = Not applicable.

Table 3.2-1. Summary of Economic Indicators, Four-County ROI, State of Indiana, and United States

	1970	1980	1989	1990	Average Annual % Change 1970-1990
United States					
Total Jobs	89,752,500	112,256,500	136,074,700	137,160,200	2.1
Civilian	86,520,500	109,805,700	133,306,700	134,492,200	2.2
Military	3,232,000	2,451,000	2,768,000	2,668,000	-1.0
Military, % of Total	3.6	2.2	2.0	1.9	NA
Civilian Labor Force	82,771,000	106,940,000	123,869,000	124,787,000	2.1
Unemployment Rate	4.9	7.1	5.3	5.5	NA
Earnings Per Job (1989$)	23,421	22,590	23,348	23,381	0.0
Per Capita Income (1989$)	12,946	14,926	17,592	17,738	1.6

Notes: Jobs are full- and part-time civilian and military employment by place of work. Civilian labor force and unemployment rate are by place of residence. Earnings and income are in constant 1989 dollars (1989$), reflecting price levels prevailing in 1989. Earnings per job and per capita income for 1970, 1980, and 1990 were converted to constant 1989 dollars using the Consumer Price Index for all urban consumers/all items. Average annual percent change is compound average for period covering the earliest and most recent years of available data. All values shown represent annual averages. Earnings per job is earnings divided by total jobs, where earnings are the sum of wage and salary disbursements, personal contributions for social insurance, other labor income, and proprietors' income. Per capita income is personal income received by persons from all sources divided by the U.S. Census Bureau mid-year population estimate. Personal income is measured as the sum of earnings, rental income of persons, personal dividend income, personal interest income, and transfer payments, less personal contributions for social insurance. Average annual percent change for all civilian labor force data shown are for 1980-1990 only.

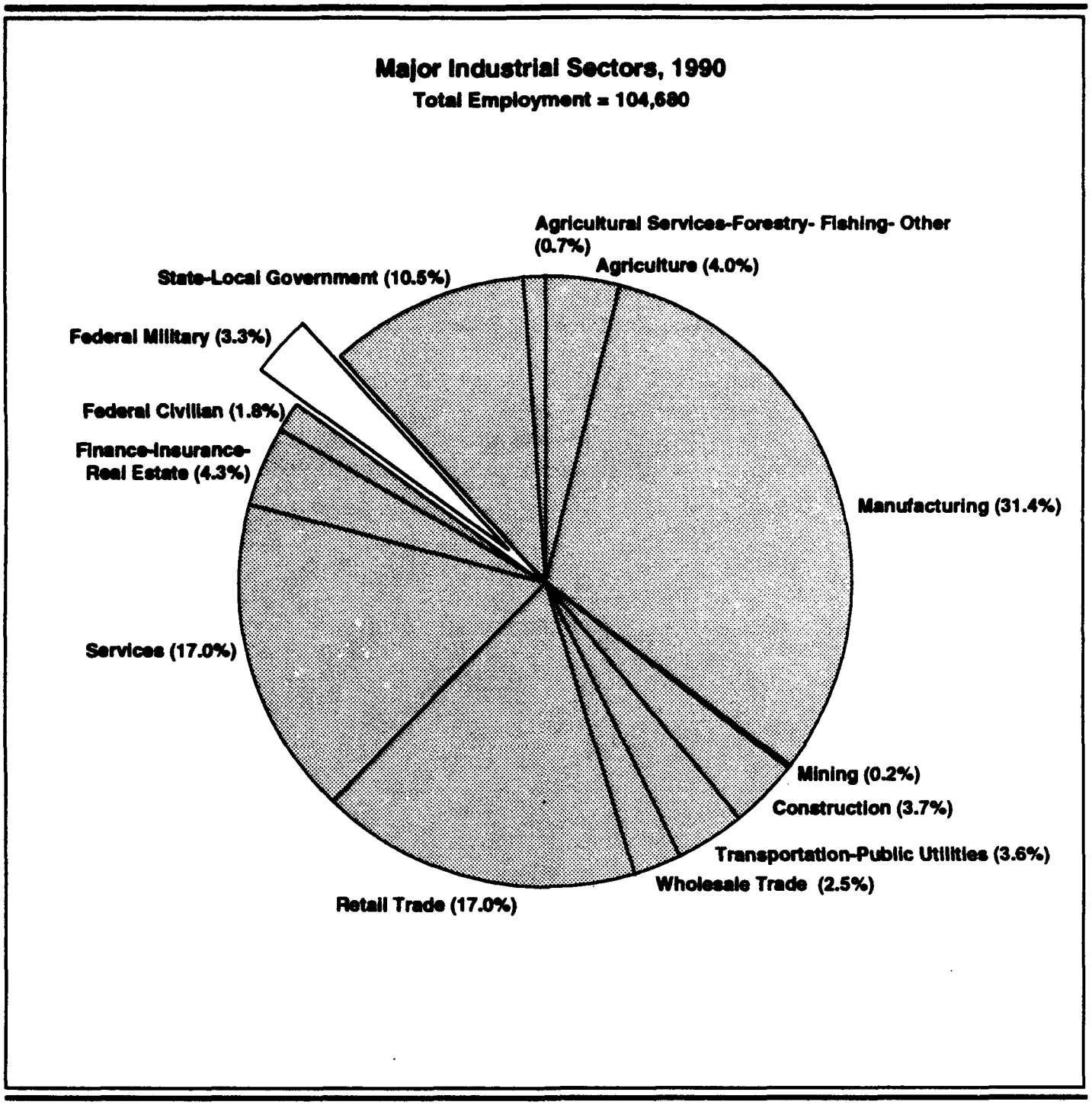
NA = Not applicable.

Sources: U.S. Bureau of Economic Analysis, 1991, 1992b; U.S. Council of Economic Advisors, 1992; Zeiger, 1992.

building products, and other industrial support services (Kokomo Development Corporation, 1992).

In the rest of the ROI, Cass and Wabash counties each contributed about a fifth of the jobs in the manufacturing, retail, and service sectors. Miami County had approximately 10 percent of the jobs in these sectors. The military and federal civilian jobs in Miami County, however, contributed over 30 percent of the ROI government sector in 1990.

While agriculture is not a dominant sector of the local economy, it is an important contributor. Feedcorn and soybeans are the principal agricultural



Distribution of ROI Jobs by Major Industrial Sectors, 1990

Figure 3.2-1

Source: U.S. Bureau of Economic Analysis, 1990.

crops in the region. Feedcorn yields in the area average 137.0 bushels per acre, 26 percent higher than the 1991 U.S. average of 108.6 bushels per acre. Soybean yields in the area average 42.3 bushels per acre, 24 percent higher than the 1991 national average of 34.2 bushels per acre (Hart, 1992; Kokomo Development Corporation, 1992; Vanlaur, 1992).

The ROI unemployment rate was 6.3 percent in 1990 (see Table 3.2-1), and increased to 8.0 percent in 1991 (Zeiger, 1992). ROI unemployment rates for 1980, 1989, and 1990 have exceeded those of Indiana and the nation as a whole.

Howard County accounted for 48 percent of the jobs in the four-county ROI in 1990, with the remaining jobs fairly evenly divided among the other three counties.

Earnings and Income. Average annual earnings per job in the ROI were higher than the state but lower than the national average levels in 1990, while per capita income was lower than both the state and national levels (see Table 3.2-1). Earnings per job (in 1989 dollars) in the ROI were $22,892 in 1990, up from $22,495 in 1970. A comparison of average 1990 earnings per job by sector indicates that annual earnings for jobs in the manufacturing and transportation sectors were higher than the average for other sectors. Average earnings per job in the mining, federal civilian, and wholesale trade sectors in the four-county economy were the next highest. Earnings per job declined in 6 of the 13 sectors of the region's economy between 1980 and 1990.

In 1990, per capita income in the ROI, including both labor and non-labor income per person, was $15,528, having grown from $11,963 in 1970 (1.3 percent per year). This growth in per capita income in the ROI was less than the comparable annual growth at the state and national levels (1.4 and 1.6 percent, respectively) over the same period, resulting in 1990 state and national per capita incomes of $16,054 and $17,738, respectively.

Grissom AFB Employment, Payrolls, and Expenditures. The number of military personnel for both the ROI and the nation decreased between 1970 and 1990. In the United States, military jobs comprised 3.6 percent of the total jobs in 1970, compared to 1.9 percent in 1990. Military jobs comprised 4.8 percent of all ROI jobs in 1970, compared to 3.3 percent in 1990.

Two factors contributed to the long-term decrease in the region's share of military employment: (1) the number of military jobs decreased by 1,061 between 1970 and 1990, while (2) over the same period there was an increase in non-military jobs, from 88,687 in 1970 to 101,262 in 1990 (including both private sector jobs and civilian jobs within federal, state, and local governments). The number of military jobs in the ROI during the past

two decades decreased at a higher rate (1.3 percent per year) than the national trend (1.0 percent per year).

Total employment at Grissom AFB in FY 1991 was 3,444, including 2,308 military jobs and 1,136 civilian jobs (Figure 3.2-2 and Table 3.2-2). Total employment decreased by 471 jobs (12.0 percent) between FY 1987 and FY 1991. The number of military personnel assigned to the base decreased by 505 (18.0 percent) during this period. The number of civilian personnel at the base increased by 34 (3.1 percent) during the same period.

Table 3.2-2. Grissom AFB Employment, Fiscal Year 1987-1991

Employment Category	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991
Military Personnel	2,813	2,740	2,693	2,365	2,308
Civilian Personnel	1,102	1,086	1,183	1,162	1,136
Appropriated Fund	804	795	830	842	847
Nonappropriated Fund/Base Exchange	298	291	353	320	289
Total Employment	3,915	3,826	3,886	3,527	3,444

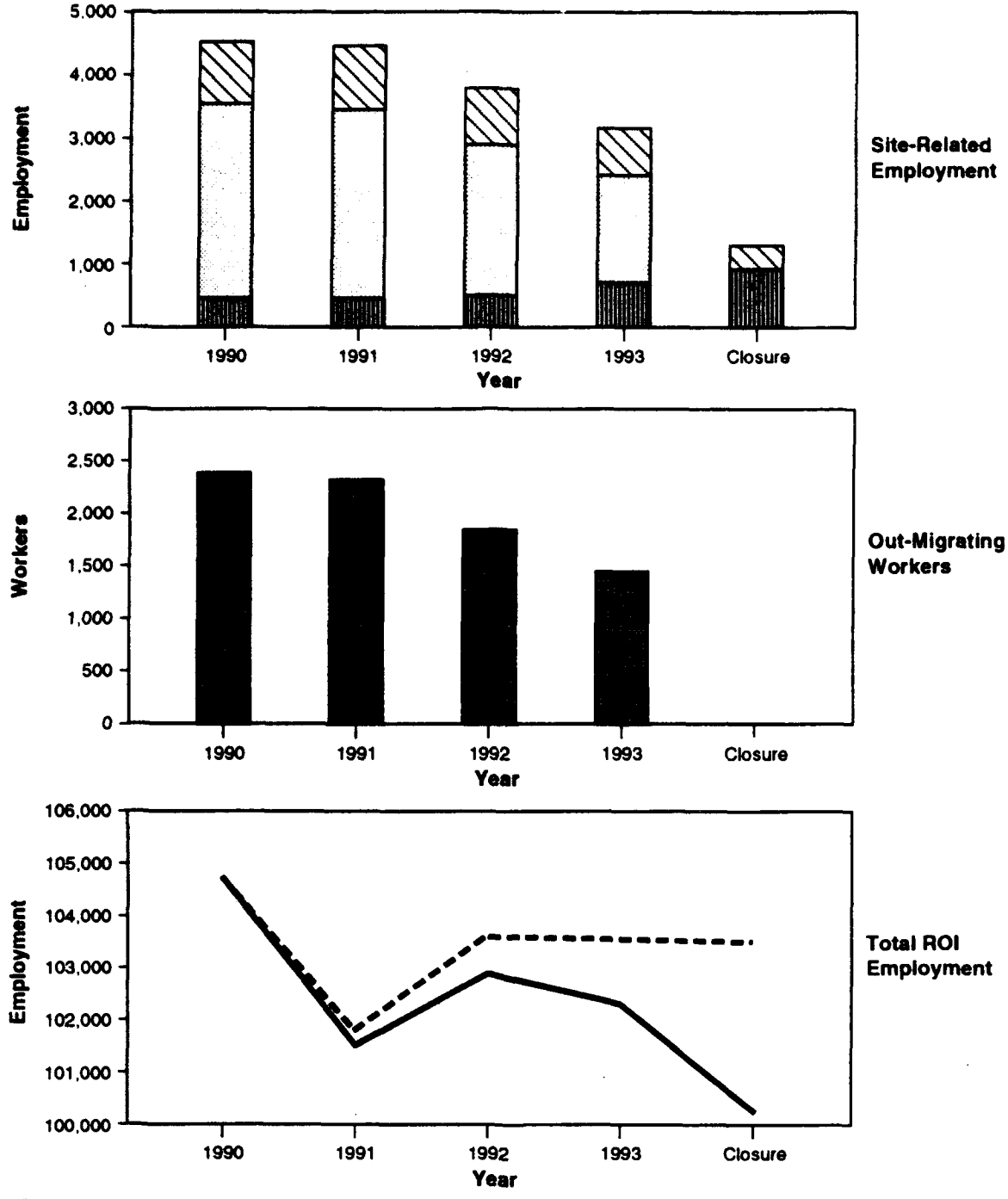
Notes: Full-time reserve personnel are included, but were not broken out in the source documents. Private on-base employment was excluded from the analysis since the businesses will remain open upon closure.
Contract civilians were considered secondary employees throughout the analysis since no payroll data were available for calculating direct economic effects.

FY = fiscal year.

Sources: U.S. Air Force, 1987, 1988, 1989a, 1990a, 1991a.

In 1990, 2,365 military jobs at Grissom AFB represented 69.2 percent of the 3,418 military jobs in the ROI. Other military jobs in the ROI were Reserve and National Guard personnel; this excludes civilian jobs on the base. Overall, military jobs constituted 3.3 percent of all the jobs in the region in 1990. Due to the presence of the base, the percentage of total jobs provided by the military sector within the ROI was 174 percent of the comparable percentage for the nation in 1990 (see Table 3.2-1). In Miami County, military jobs represented 15.5 percent of all jobs in 1990.

Total base payrolls in FY 1991 were $88,966,259, having grown by $15,211,394 between FY 1987 and FY 1991 (Table 3.2-3). About 63.1 percent of the growth in total base payroll was attributed to military personnel. Total base payroll increased at an average annual rate of 4.8 percent during this period. Total military payrolls increased at an average annual rate of 4.2 percent. Total civilian payrolls increased at an average annual rate of 6.2 percent.



EXPLANATION

- ROI Direct Employment
- ROI Secondary Employment
- Military Employment
- Civilian Employment
- 434th Reserve Wing Personnel
  62 OL included at Closure
- Actual & Closure Projection
- Assumed No Base Closure

Notes: Closure represents Sept. 1994 conditions. The ROI employment for 1990, 1991 and 1992 are based on actual labor force and unemployment data (Zeiger, 1992).

ROI Site-Related and Total Employment Projections

Figure 3.2-2

Table 3.2-3. Grissom AFB Payrolls Fiscal Year 1987-1991 (current year dollars)

Category	FY 1987	FY 1988	FY 1989	FY 1990	1991
Military[a]	53,239,776	56,336,165	59,002,225	59,734,824	62,836,647
Civilian	20,515,089	22,641,704	23,396,271	25,381,691	26,129,612
Appropriated Fund	18,355,711	20,540,923	20,978,171	23,140,437	23,364,952
Nonappropriated Fund[b] and Other	2,159,378	2,100,781	2,418,100	2,241,254	2,764,660
Total Payrolls	73,754,865	78,977,869	82,398,496	85,116,515	88,966,259

Notes: Monetary data shown are in current-year dollars (i.e., they have not been adjusted for inflation) and, therefore, are not directly comparable with the constant-year monetary data (i.e., adjusted for inflation) presented elsewhere in this document.
(a) Full-time reserve payrolls are included.
(b) Excludes on-base contract civilians due to lack of data.

FY = fiscal year

Sources: U.S. Air Force, 1987, 1988, 1989a, 1990a, 1991a.

Total expenditures were $22,279,581 in FY 1991, having decreased from $27,613,158 in FY 1987 (Table 3.2-4). During this period, with the exception of 1991, construction was the largest category of expenditures. Between FY 1987 and FY 1991, total expenditures fluctuated between $28,885,721 (in 1989) and $22,279,581 (in 1991).

Table 3.2-4. Grissom AFB Annual Expenditures Fiscal Year 1987-1991 (current year dollars)

Expenditure Category	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991
Total Construction	16,946,020	12,248,915	14,075,101	8,832,982	3,547,494
Total Services	5,589,425	6,174,802	6,259,492	7,826,067	7,886,689
Commissary/Base Exchange	923,889	1,163,630	3,101,693	1,585,248	2,133,748
Education	1,132,913	1,314,541	1,222,413	1,219,536	1,367,005
Health	2,535,989	3,146,295	3,720,848	6,215,852	6,580,386
Temporary Duty	204,810	286,514	298,487	598,954	713,368
Other	280,112	374,939	207,687	44,898	50,891
Total Expenditures	27,613,158	24,709,636	28,885,721	26,323,537	22,279,581

Note: Monetary data shown are in current-year dollars (i.e., they have not been adjusted for inflation) and, therefore, are not directly comparable with the constant-year monetary data (i.e., adjusted for inflation) presented elsewhere in this document.

FY = fiscal year.

Sources: U.S. Air Force, 1987, 1988, 1989a, 1990a, 1991a.

Closure Conditions

Grissom AFB military and civilian employment levels will decline as the drawdown of personnel at the base continues through September 1994 (Table 3.2-5 and Figure 3.2-2). From FY 1990 to closure, a total of 2,549

Table 3.2-5. ROI Employment and Earnings Projections, 1990 to Closure (constant 1989 dollars)

	1990	1991	1992	1993	Closure[a]
Site-Related Employment and Earnings					
Base Operations					
Employment[b]	4,539	4,461	3,827	3,266	1,227
Direct	3,527	3,444	2,933	2,500	928
305th Air Refueling Wing	3,055	2,970	2,426	1,793	0
434th Composite Wing	472	474	507	707	928
Secondary	1,012	1,017	894	766	299
Earnings ($000)	97,751	98,727	90,627	77,844	31,413
Direct	81,244	82,279	76,114	65,423	26,589
305th Air Refueling Wing	68,046	69,563	60,099	44,401	0
434th Composite Wing	13,198	12,716	16,015	21,022	26,589
Secondary[c]	16,507	16,448	14,513	12,421	4,824
Operating Location (OL)					
Employment	0	0	0	0	62
Direct	0	0	0	0	50
Secondary	0	0	0	0	12
Earnings ($000)	0	0	0	0	1,224
Direct	0	0	0	0	1,038
Secondary	0	0	0	0	186
Total Site-Related Projections					
Employment	4,539	4,461	3,827	3,266	1,289
Direct	3,527	3,444	2,933	2,500	978
Secondary	1,012	1,017	894	766	311
Earnings ($000)	97,751	98,727	90,627	77,844	32,637
Direct	81,244	82,279	76,114	65,423	27,627
Secondary	16,507	16,448	14,513	12,421	5,010
ROI Employment					
Employment Projection (without closure)[c]	104,680	101,723	103,603	103,572	103,511
Employment Loss (cumulative)[d]	0	-78	-712	-1,273	-3,250
Baseline Projection (with closure)	104,680	101,645	102,891	102,299	100,261
Out-Migrating Workers[e]					
Direct	2,387	2,330	1,841	1,443	0
Military	2,365	2,308	1,823	1,429	0
Civilian	22	22	18	14	0
Secondary	71	72	60	47	0
Total	2,458	2,402	1,901	1,490	0

Notes:
(a) Closure represents September 1994 conditions. ROI employment closure data are for 1995, the first full year of closure.
(b) On-base contract civilians were considered secondary employees since there were no payroll data available for calculating direct economic effects. Peru Trust and Credit Union operations (private business on base) were excluded from the closure effects analysis since they were assumed to remain in operation after closure of the base.
(c) ROI employment projections represent hypothetical future conditions with base in operation at 1990 level. Data for 1991 and 1992 were estimated from changes in ROI employed labor force, based on data from Zeiger, 1992. Estimates thereafter were developed from the projected population trend prepared by the Indiana University School of Business, 1988.
(d) Employment loss is calculated as total site-related employment in 1991, 1992, 1993, and at closure, minus total site-related employment in the preclosure year (1990).
(e) Out-migrating workers are military personnel and civilian workers who are in the ROI due to their site-related employment and are projected to leave the ROI once their site-related jobs are phased out.

ROI = Region of Influence.

Sources: Indiana University School of Business, 1988; U.S. Air Force, 1990a, 1991a; U.S. Bureau of the Census, 1991a; U.S. Bureau of Economic Analysis, 1992b; Zeiger, 1992.

direct military and civilian positions would be either transferred or phased out of the regional economy. Because of the loss of military personnel, civilian jobs, and base spending, a total of 701 secondary jobs (including contract civilians) attributable to base operations would be lost (see Table 3.2-5). Secondary job losses would be broadly distributed among services, trade, and other ROI economic sectors.

Table 3.2-5 sets forth the number of ROI workers that would leave the area upon closure of the base. Based on 1990 activity levels, a net total of 2,387 direct military and civilian workers and 71 secondary workers would out-migrate from the ROI. Many of the civilian personnel to be employed by the 434th Wing are expected to be transfers from other activities on base.

By closure, direct and secondary site-related earnings levels will decline by $65,114,000 (1989 dollars) compared to 1990 levels (see Table 3.2-5).

At closure, an OL will be retained by the federal government to maintain the base in a caretaker status for an indefinite period of time. It is estimated that 50 direct jobs would be required, and worker spending and procurement for small amounts of goods and services would generate 12 secondary jobs in the regional economy. Direct earnings levels are projected to be $1,038,000, with regional secondary earnings projected at $186,000 per year.

At closure, the 434th Wing would require 928 direct (844 appropriated fund and 84 nonappropriated fund personnel) jobs and would create 299 secondary jobs in the ROI. Direct earnings from the reserve wing would be $26,589,000, and secondary earnings would be $4,824,000.

Based on 1990 employment data, regional projections, and the effects of base closure, regional employment is projected to decline from 104,680 in 1990 to 100,261 at closure (see Table 3.2-5).

3.3 POPULATION

The population effects of closure of Grissom AFB were analyzed at both the regional and local levels. The ROI consists of the counties of Miami, Howard, Cass, and Wabash, the same counties identified in the economic activity section. Population effects are further described based on residency patterns and the communities most affected by base closure. These include the city of Peru and the town of Bunker Hill in Miami County, and Kokomo in Howard County.

Recent Trends

ROI Population. According to final 1990 census counts, the population within the ROI was 191,206. Population decreased in the ROI, by an

average of 0.7 percent annually during the preceding decade. During the 1970s, ROI population increased at a rate of 0.3 percent per year. Table 3.3-1 presents population growth trends for the counties and communities for 1970, 1980, and 1990, as well as average annual growth rates for the periods 1970 to 1980, and 1980 to 1990.

Table 3.3-1. Population Trends for ROI, Counties, and Communities

	Population			Average Annual Growth Rate (%)	
	1970	1980	1990	1970-1980	1980-1990
Miami County	39,246	39,820	36,897	0.1	-0.8
Bunker Hill	956	984	1,010	0.3	0.3
Peru	14,139	13,764	12,843	-0.3	-0.7
Rest of County	24,151	25,072	23,044	0.4	-0.8
Howard County	83,198	86,896	80,827	0.4	-0.7
Kokomo	44,042	47,808	44,962	0.8	-0.6
Rest of County	39,156	39,088	35,865	0.0	-0.9
Cass County	40,456	40,936	38,413	0.1	-0.6
Wabash County	35,553	36,640	35,069	0.3	-0.4
ROI Total	198,453	204,292	191,206	0.3	-0.7
State of Indiana	5,195,392	5,490,224	5,544,159	0.6	0.1
United States (000)	205,052	227,722	249,975	1.1	0.9

ROI = Region of Influence.
Sources: U.S. Bureau of the Census, 1982a, 1991a.

The negative growth experienced in the ROI was contrary to that experienced by the state, which grew by 0.1 percent per year from 1980 to 1990, and by the United States as a whole, which experienced average annual growth of 0.9 percent during that period (see Table 3.3-1).

Military Population and Retirees. The total number of military personnel and their dependents assigned to Grissom AFB was 5,822 in FY 1991, down 151 persons (2.5 percent) from the FY 1990 total of 5,973 (Table 3.3-2). There were 1,372 fewer military personnel and dependents (19.1 percent) in FY 1991 than in FY 1987.

In FY 1991, a total of 4,089 persons, consisting of 1,586 military personnel and their 2,503 dependents, resided in base housing (identified as "living on base" in Table 3.3-2). This represented 70.2 percent of all military personnel and dependents assigned to the base, higher than the average of 64.0 percent for the prior four years. The remaining 722 military personnel

Table 3.3-2. Military Population and Housing, Fiscal Year 1987-1991 Grissom AFB

Category	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991
Military Personnel	2,813	2,740	2,693	2,365	2,308
Living on base	1,774	1,737	1,818	1,577	1,586
Living off base	1,039	1,003	875	788	722
Military Dependents	4,381	4,114	3,479	3,608	3,514
Living on base	2,755	2,549	2,100	2,423	2,503
Living off base	1,626	1,565	1,379	1,185	1,011
Total Military Personnel and Dependents	7,194	6,854	6,172	5,973	5,822
Military retirees	1,158	1,165	1,191	1,211	1,235
Housing assets					
Family housing units	594	594	594	1,123	1,123
Unaccompanied quarters					
Dormitory facilities	15	15	14	14	14
Bed capacity	NA	NA	NA	1,242	1,044

Notes: Family housing units include seven temporary lodging facilities (TLFs) for FY 1990 and 1991. Previous TLF numbers are not available. Military retiree numbers do not match the base Economic Resource Impact Statements (ERISs), because the ERISs analyze a larger Region of Influence. Data for retirees shown in this table exclude dependents and are only those persons living in Miami, Howard, Cass, and Wabash counties.

FY = fiscal year.
NA = Data not available. Beginning in FY 1990, total family housing units were counted; previously, only the number of buildings was reported in the ERISs.

Sources: U.S. Air Force, 1987, 1988, 1989a, 1990a, 1991a.

and their 1,011 dependents assigned to the base in FY 1991 lived off base (see Table 3.3-2); that is, they resided in area communities rather than in base housing.

Based on 1992 zip code data (see Appendix B), military (on-base and off-base) and civilian base personnel reside primarily in Miami County (82.9 percent) and Howard County (12.6 percent). Cass and Wabash counties have 3.8 and 0.1 percent of base personnel, respectively. The remaining 0.6 percent reside outside of the four-county ROI. About 11.9 percent of base personnel reside in Peru, 7.7 percent in Kokomo, and 1.6 percent in Bunker Hill.

Military retirees in the ROI numbered 1,211 in FY 1990 and 1,235 in FY 1991 (see Table 3.3-2). The number of retirees increased from 1,158 to 1,235 during the period FY 1987 through FY 1991 (U.S. Air Force, 1991c).

The number of site-related employees, their dependents, plus military retirees and their dependents was estimated at 15,133 persons in 1990 (Table 3.3-3). This total included 5,973 military personnel plus dependents, 6,326 direct and secondary civilian workers and their dependents, and 2,834 retired military personnel and their dependents.

Closure Conditions

Site-Related Population. Site-related population is projected to decrease to 5,892 at closure as the number of jobs associated with the base declines (Table 3.3-3). Of the total at closure, 2,700 would be personnel directly employed with the 434th Wing and the OL, and their dependents. An additional 869 persons would be secondary employees and their dependents, and 2,323 would be retirees and their dependents.

Out-Migrating Population. Based on 1990 employment levels, a total of 2,458 employees are expected to leave the ROI after their jobs are phased out (see Table 3.2-5). Under closure conditions, the 5,973 active duty military personnel in FY 1990 and their dependents reported in Table 3.3-3 are expected to be transferred out of the ROI to other assignments. The appropriated fund civilian staffing level is expected to remain approximately constant as the 305th Wing personnel are phased out and the 434th Wing increases their staffing to become an autonomous unit.

A total of 277, or 10 percent, of other direct (nonappropriated fund and base exchange) and secondary (including contract) civilian workers and their dependents are expected to leave due to closure. These 277 persons comprise 69 nonappropriated fund and base exchange and 208 secondary workers (including 83 contract civilians) and their dependents. The remaining 90 percent of other direct and secondary civilian workers and their dependents are expected to remain in the ROI and seek other employment. It was assumed that 567 persons, or 20 percent, of the military retirees and their dependents living in the ROI in 1990 would choose to leave after the base closed due to the loss of retirement benefit services. For a detailed discussion of the out-migrating population assumptions, see Appendix B.

Some of the civilians who would otherwise leave upon closure of the base are expected to become part of the 434th Wing base operations support. Some would also become part of the OL during the maintenance and disposal of the base property and would remain in the area until disposal of the base. Of the 15,133 site-related population in the ROI associated with operation of the base in 1990 (see Table 3.3-3), a total of 6,793 persons (employees, retirees, and dependents) are projected to leave the region by

Table 3.3-3. Site-Related Population, 1990 to Closure

	1990	1991	1992	1993	Closure[a]
Persons by Labor Category					
Military	5,973	5,822	4,599	3,605	0
Civilians	6,326	6,266	5,832	5,345	3,569
Direct	3,381	3,306	3,230	3,117	2,700
Secondary	2,945	2,960	2,602	2,228	869
Retired Military	2,834	2,890	2,890	2,890	2,323[b]
Total	15,133	14,978	13,321	11,840	5,892
Persons by Location					
Miami County	9,565	9,496	8,258	7,162	2,951
Bunker Hill	345	337	316	293	196
Peru	2,378	2,302	2,131	1,954	1,218
Rest of County	6,842	6,857	5,811	4,915	1,537
Howard County	3,523	3,450	3,179	2,926	1,810
Kokomo	2,072	2,027	1,867	1,717	1,060
Rest of County	1,451	1,423	1,312	1,209	750
Cass County	1,438	1,426	1,333	1,244	824
Wabash County	507	509	461	425	252
ROI Total	15,033	14,881	13,231	11,757	5,837
Outside ROI	100	97	91	83	55
Total	15,133	14,978	13,322	11,840	5,892

Notes: Site-related population represents all direct and secondary workers, their dependents, and military retirees and dependents residing in the region as a result of base operations. Retired military personnel are estimated to have an average of 1.34 dependents each, based on U.S. Air Force (1991c).

(a) Closure represents September 1994 conditions. The 2,700 direct population includes Operating Location personnel, reservists working as both civilians and military, and their dependents.

(b) Represents reduction at closure from 1992 level by 20 percent of preclosure (1990) level retirees.

ROI = Region of Influence.

Sources: U.S. Air Force, 1990a, 1991a, 1991c, 1992d.

the time the base closes in September 1994 (Table 3.3-4) and 8,340 persons are projected to remain in the ROI.

Based on the residential distribution of persons leaving the region, as shown in Table 3.3-4, Miami County will experience the greatest loss in population (5,553 persons including the 4,000 persons living on base). This will include the loss of 80 persons from the community of Bunker Hill and 720 persons from the city of Peru. Howard County will lose 913 persons by closure, including 546 from the city of Kokomo.

Table 3.3-4. Regional Population Projections, 1990 to Closure

	1990	1991	1992	1993	Closure[a]
Migratory Population Changes[b]					
Miami County	5,553	5,496	4,397	3,497	0
Bunker Hill	80	73	61	51	0
Peru	720	651	536	441	0
Rest of County	4,753	4,772	3,800	3,005	0
Howard County	913	837	705	595	0
Kokomo	546	499	419	353	0
Rest of County	367	338	286	242	0
Cass County	253	239	209	185	0
Wabash County	74	73	66	61	0
ROI Total	6,793	6,645	5,377	4,338	0
ROI Population					
Without closure					
Miami County	36,897	36,909	36,920	36,932	36,955
Bunker Hill	1,010	1,010	1,011	1,011	1,012
Peru	12,843	12,847	12,851	12,855	12,863
Rest of County	23,044	23,052	23,058	23,066	23,080
Howard County	80,827	80,780	80,733	80,686	80,591
Kokomo	44,962	44,936	44,910	44,884	44,831
Rest of County	35,865	35,844	35,823	35,802	35,760
Cass County	38,413	38,265	38,118	37,970	37,675
Wabash County	35,069	35,204	35,340	35,475	35,746
ROI Total	191,206	191,158	191,111	191,063	190,967
Closure Effects					
Miami County[c]	0	-57	-1,156	-2,056	-5,553
Bunker Hill	0	-7	-19	-29	-80
Peru	0	-69	-184	-279	-720
Rest of County	0	19	-953	-1,748	-4,753
Howard County	0	-76	-208	-318	-913
Kokomo	0	-47	-127	-193	-546
Rest of County	0	-29	-81	-125	-367
Cass County	0	-14	-44	-68	-253
Wabash County	0	-1	-8	-13	-74
ROI Total	0	-148	-1,416	-2,455	-6,793
With Closure					
Miami County	36,897	36,852	35,764	34,876	31,402
Bunker Hill	1,010	1,003	992	982	932
Peru	12,843	12,778	12,667	12,576	12,143
Rest of County	23,044	23,071	22,105	21,318	18,327
Howard County	80,827	80,704	80,525	80,368	79,678
Kokomo	44,962	44,889	44,783	44,691	44,285
Rest of County	35,865	35,815	35,742	35,677	35,393
Cass County	38,413	38,251	38,074	37,902	37,422
Wabash County	35,069	35,203	35,332	35,462	35,672
ROI Total	191,206	191,010	189,695	188,608	184,174

Notes: (a) Closure represents September 1994 conditions. ROI closure data are for 1995, the first full year after closure.
(b) Migratory population represents those site-related employees, dependents, and retirees living in the region who are projected to leave the ROI once the site-related jobs are phased out. All other site-related employees, dependents, and retirees are assumed to remain in the region after base closure.
(c) Includes on-base population of 4,000 persons in 1990.
ROI = Region of Influence.

Sources: Indiana University School of Business, 1988; U.S. Air Force, 1990a, 1991a; U.S. Bureau of the Census, 1991a.

ROI Population with Base Closure. As Grissom AFB draws down its missions, ROI population will decrease from its 1990 level of 191,206 persons to 184,174 at closure, a decrease of 0.7 percent annually. Had the base remained open, however, the population in the ROI was projected to have decreased from its 1990 level of 191,206 persons to 190,967, a decrease of less than 0.1 percent annually over the same period (see Table 3.3-4). This projection is based on forecasts prepared by the Indiana University School of Business in 1988, prior to announcement of the closure of Grissom AFB.

3.4 HOUSING

Recent Trends

Grissom AFB Housing Stock. In 1991, Grissom AFB contained 1,116 family housing units and 7 transient lodging facilities in its inventory (see Table 3.3-2). These units are located in the northwestern part of the base and include single-family, two-family, and four-family housing. The housing was constructed in the 1950s and 1960s and is divided into "neighborhoods" by rank structure: senior officer, company and field grade officer, senior noncommissioned officer (NCO), and junior NCO. The 14 dormitory facilities on Grissom AFB will accommodate 1,044 persons (see Table 3.3-2).

ROI Housing Stock. The number of housing units in the four-county ROI, excluding the 1,123 units on Grissom AFB, totalled 76,357 in 1990 (Table 3.4-1), representing an average annual increase of 0.1 percent per year from the 75,641 units in the ROI in 1980. This growth in the housing stock was lower than both the Indiana average rate of 0.7 percent and the U.S. average rate of 0.4 percent for the same period.

The flat trend in the ROI housing stock is consistent with the 0.7 percent average annual decline in ROI population between 1980 and 1990.

The total number of housing units increased in Miami and Howard counties between 1980 and 1990, but decreased in Cass and Wabash counties during the same period. The total number of off-base units in Miami County was 13,510 in 1990, an increase from 13,488 in 1980. Bunker Hill contained 425 housing units in 1990, but no comparable data were available for 1980. In Peru there were 5,732 housing units in 1990, an increase from 5,659 in 1980.

There were 33,820 housing units in Howard County in 1990, up from 32,919 units in 1980. Of these, 20,155 housing units were in Kokomo in 1990, up from 19,526 units in 1980.

Cass County experienced a decline in the total number of housing units from 15,769 in 1980 to 15,633 in 1990. Wabash County experienced a similar

Table 3.4-1. Housing Units and Vacancies for the Grissom AFB ROI: 1980, 1990

County/Community	Total Off-Base Housing Units		Average Growth Rate	Vacancy Rates (%)			
					Owner	Renter	Avg.
	1980	1990	(%)	1980	1990		
Miami County[a]	13,488	13,510	0.0	3.0	1.6	7.5	3.4
Bunker Hill	NA	425	NA	NA	0.4	14.8	5.3
Peru	5,659	5,732	0.1	4.1	2.2	9.3	4.5
Rest of County[a]	7,829	7,353	-0.6	2.4	1.3	5.8	2.6
Howard County	32,919	33,820	0.3	3.1	1.8	8.8	3.9
Kokomo	19,526	20,155	0.3	3.9	2.3	9.0	4.9
Rest of County	13,393	13,665	0.2	1.9	1.3	8.0	2.3
Cass County	15,769	15,633	-0.1	3.0	1.6	5.9	2.7
Wabash County	13,465	13,394	-0.1	2.6	0.9	4.3	1.8
ROI Total	75,641	76,357	0.1	3.0	1.6	7.3	3.2
Indiana (000)	2,092	2,246	0.7	3.6	1.5	8.3	3.6
United States (000)	88,411	91,947	0.4	7.1	2.1	8.5	3.0

Notes: (a) Miami County total and Rest of County housing units in 1980 and 1990 were reduced by the Grissom AFB housing stock of 1,129 units (1990 census). Economic Resource Impact Statement figure is 1,123 for 1990. Rest of Miami County includes Bunker Hill in 1980.

Avg. = Average.

NA = Data not available.

ROI = Region of Influence.

Sources: U.S. Bureau of the Census, 1982b, 1991a.

rate of decline from 13,465 units in 1980 to 13,394 units in 1990. The declines in the number of units in Cass and Wabash counties reflect demolition of units or removal of units, such as mobile homes relocated out of the counties, exceeding the number of new units added.

ROI Vacancy Rates. The 1990 housing vacancy rate in the ROI, adjusted to exclude seasonal vacancies, was 3.2 percent (see Table 3.4-1). The 1990 rate was slightly higher than the 1980 rate of 3.0 percent.

Vacancy rates for individual ROI counties and communities also are displayed in Table 3.4-1. Miami and Howard counties had 1990 vacancy rates of 3.4 and 3.9 percent, respectively. Bunker Hill had a vacancy rate of 5.3 percent, Peru's 1990 vacancy rate was 4.5 percent, and Kokomo had a vacancy rate of 4.9 percent.

Vacancy rates for rental housing in the ROI in 1990 were higher than for owner housing (see Table 3.4-1). This is the case for the state and nation as well. The 1990 ROI average vacancy rate of 3.2 percent represented a composite of a lower (1.6 percent) owner vacancy rate and a higher (7.3 percent) renter vacancy rate. These rates exclude seasonal vacancies.

Housing Costs and Tenure. The median value of ROI owner-occupied housing in 1990 was $45,785 (Table 3.4-2). This represented an average annual increase of 2.9 percent from the 1980 ROI value of $34,240. The 1990 median home value in the ROI was about 85 percent of the state value and 58 percent of the national value. The 2.9 percent average annual increase from 1980 to 1990 was below the average of 3.6 percent per year for the state and the 5.3 percent annual increase for the nation.

Table 3.4-2. Housing Tenure, Median Value, and Median Contract Rent for the Grissom AFB ROI, State of Indiana, and the United States: 1980, 1990 (current year dollars)

	1980			1990		
Area	Percent Owner-Occupied[a]	Median Value [b]	Median Contract Rent [c]	Percent Owner-Occupied	Median Value [b]	Median Contract Rent [c]
Miami County[d]	71.2	30,900	156	70.4	40,300	238
Bunker Hill	NA	NA	NA	63.5	38,800	208
Peru	65.5	25,200	138	62.7	33,612	213
Rest of County[d][e]	75.3	34,484	167	76.8	44,628	258
Howard County	69.8	37,400	175	67.2	51,700	279
Kokomo	61.6	27,100	176	57.2	41,855	278
Rest of County[e]	81.6	48,742	172	81.9	61,848	282
Cass County	76.9	31,600	143	75.1	40,300	219
Wabash County	70.0	33,100	147	70.0	43,400	233
ROI Total[d][e]	70.4	34,240	160	68.8	45,785	252
Indiana (000)	66.1	38,000	170	64.6	53,900	291
United States (000)	64.4	47,200	198	64.2	79,100	374

Notes: (a) Percent owner occupied was calculated as owner-occupied housing units divided by total housing units.
(b) Owner-occupied units.
(c) Renter-occupied units, (per month).
(d) Grissom AFB housing stock was excluded from the calculations for this area.
(e) Median value and median contract rent for this area were estimated using weighted averages. Weights were based on the number of owner-occupied and renter-occupied units, respectively, in each county.

NA = Data not available.

ROI = Region of Influence.

Sources: U.S. Bureau of the Census, 1982b, 1991a.

Miami County's median home value in 1990 was $40,300, up from $30,900 in 1980, but lower than the 1990 ROI average. Howard County's median home value in 1990 was $51,700, higher than the ROI average (see Table 3.4-2) and an increase from $37,400 in 1980. Bunker Hill, Peru, and

Kokomo all registered 1990 median home values lower than the ROI average.

The ROI median contract rent for renter-occupied units, excluding on-base family housing, in 1990 was $252 per month (see Table 3.4-2). Rents increased an average of 4.6 percent per year in the ROI from 1980 to 1990. The ROI 1990 median rent was about 87 percent of the Indiana median rent and 67 percent of the national median. The average increase of 4.6 percent per year during the 1980s was lower than the state-wide average increase of 5.5 percent and the national average increase of 6.6 percent.

Median rent in Miami County in 1990 was $238 per month, which was below the ROI average. Howard County median rent was $279 per month in 1990, which was above the ROI average. Bunker Hill and Peru both had 1990 median rents below the ROI average, while Kokomo's median rent in 1990 was higher.

The proportion of occupied housing which was owner-occupied in 1990 averaged 68.8 percent in the ROI. This was a decrease from the 1980 share of 70.4 percent.

Housing Construction Trends. Data on new housing units authorized by building permits in the four counties in the ROI are presented in Table 3.4-3. These data reflect general trends in construction, though not all units authorized by permits were necessarily completed. New authorized units averaged 56 per year in Miami County between 1980 and 1990. Authorized units in the county fluctuated between 72 in 1985 and 46 in 1990. The number of new units authorized in Howard County during the same period was greater, amounting to an average of 205 per year.

Table 3.4-3. Total Housing Units Authorized by Building Permits for the Grissom AFB ROI

	1980	1985	1990	Average[a] 1980-1990
Miami County	67	72[b]	46	56
Howard County	576	151[b]	193	205
Cass County	157	42	55	61
Wabash County	50	37[b]	63	56
ROI Total	850	302	357	378

Notes: (a) Averages are calculated for the full 1980-1990 period.
(b) Number shown in the table is a partial total for that county, since one or more of the towns did not submit annual reports, or, if on list for monthly reporting, reports were received for less than nine months.

ROI = Region of Influence.

Sources: U.S. Bureau of the Census, 1981, 1986, 1990, 1991b.

About 64 percent of the construction authorized in the ROI during the 1980s consisted of single-family units, and almost 45 percent of multi-family units authorized during the decade were in 1980 (U.S. Bureau of the Census, 1981, 1986, 1990, 1991b).

Closure Conditions

Migratory-Related Housing Demand. The effects on housing demand from closure of the base are presented in Table 3.4-4. These effects represent the number of units needed by the out-migrating population through the date of closure.

Table 3.4-4. Projected Housing Demand, 1990 to Closure

	1990	1991	1992	1993	Closure[a]
Miami County[b]	621	578	480	398	0
Bunker Hill	32	30	25	21	0
Peru	288	268	221	182	0
Rest of County[b]	301	280	234	195	0
Howard County	365	344	290	245	0
Kokomo	218	205	172	146	0
Rest of County	147	139	118	99	0
Cass County	101	98	86	76	0
Wabash County	30	30	27	25	0
ROI Total[c]	1,117	1,050	883	744	0

Notes: Data are migratory-related housing demand and reflect demand from the portion of the site-related population that is expected to leave the area after the base closes.
(a) Closure represents September 1994 conditions.
(b) On-base housing demand is excluded from this table.

ROI = Region of Influence.

ROI off-base housing demand associated with the base is expected to decrease from 1,117 units in 1990 to zero units at closure. Approximately 56 percent of this decrease will be experienced by Miami County, which is expected to lose demand for 621 units. Bunker Hill and Peru are projected to lose demands for 32 and 288 units, respectively, while Kokomo will experience a drop in base-related demand of 218 units between 1990 and closure.

ROI Housing Demand With Base Closure. The reduction in housing demand, excluding on-base housing demand, is estimated at 1,117 units. Reductions in housing demand and increases in housing vacancy rates are expected to cause a decline in home prices and rents and a lengthening of the time required to sell or lease residential property.

3.5 PUBLIC SERVICES

The key public services examined in this analysis are local government administration, public education, police and fire protection, and health care. In the Grissom AFB region, providers of these services are county and city governments, public school corporations, police and fire departments, and hospitals and medical clinics. The following section presents a discussion of the recent trends and closure conditions for each of these major public services in the ROI.

The ROI for studying the effects on public services includes the areas within the region that will experience the greatest population effects and, therefore, the greatest effects on the provision of these services due to the closure and potential reuse of the base. These jurisdictions include the Miami and Howard county governments; the Bunker Hill town government; the Peru and Kokomo city governments; the Maconaquah School Corporation; the Peru Community School Corporation; and the Kokomo-Center Township Consolidated School Corporation.

The levels of general public service are usually determined by the ratio of employees (e.g., municipal employees, sworn officers, professional fire fighters) per 1,000 of serviced population (per capita generated), and by student/teacher ratios at the primary and secondary public school levels. In addition, staffing per area of service (e.g., per square mile) is used where effects of boundary changes need to be assessed. Minimum staffing requirements were addressed based on interviews with key local government personnel.

3.5.1 Governmental Structure

Recent Trends

Miami County

Miami County was formed in 1834 by the Indiana Legislature, which granted the Board of Commissioners fundamental powers as the county's legislative and executive body. The board consists of three commissioners, one from each of three districts, who are elected to four-year terms. Each of the districts is apportioned based on population. The county also has a County Council comprising seven members that functions as the chief financial body in conjunction with the county commissioners. Members of the council are also elected for four-year terms. In addition, each of the 14 townships that make up the county has an elected trustee governing county functions in the township. The county is approximately 340 square miles in size, and the county seat is located in the city of Peru (Butts, 1992). Miami County is responsible for assessing and collecting county taxes; constructing and maintaining county roads and bridges; county law enforcement and legal

functions (Circuit and Superior courts); maintaining public records and recording land transactions; and countywide health and social services. In 1990, the county employed approximately 158 full- and part-time personnel (140 full-time equivalents (FTE), excluding seven sworn sheriff personnel analyzed separately). These staff levels result in an overall per capita-generated level of service of 4.3 FTE personnel per 1,000 population for the 32,897 persons living off base (population living in base housing is served by the base), or an area-generated level of service of about 2.4 square miles per FTE. Of the county's various departments, the County Jail, the Circuit and Superior Courts, and County Roads Department are the largest employers (Miami County, 1991).

Town of Bunker Hill

The town of Bunker Hill was incorporated in 1882. The Charter for the town of Bunker Hill was approved by the County Board of Commissioners, granting the town council fundamental powers as the town's legislative and executive body. Bunker Hill has a Town Council form of government. The council members are elected to four-year terms, and one member of the council serves as president. Local government services include public safety, water and wastewater, building inspections, and general administration. In 1990, the town employed 13 full-time and part-time personnel (11 FTE excluding the town marshal, analyzed separately) representing a level of service of 10.9 FTE personnel per 1,000 population for the 1,010 persons in the town (Davis, 1992).

City of Peru

Peru, incorporated in 1842, operates with a Mayor-Council form of government. The Mayor and seven council members are elected at large for four-year terms. The city provides general administration and planning, parks and recreation, community services, public works, and public safety services. The city employed approximately 145 full-time and part-time workers (127 FTE excluding 26 sworn police and 31 fire fighters analyzed separately) in 1990 and maintains a level of service of 9.9 FTE personnel per 1,000 population for the 12,843 persons in the city (Black, 1992).

Howard County

Howard County was created in 1844 by the Indiana Legislature which granted the Board of Commissioners legislative and executive powers. Elected officials include three commissioners and seven members of the County Council, each serving a term of four years. Like other counties in the state, Howard County is responsible for tax assessment and collection, county law enforcement and legal functions, public records and county recorder. The county employed a total of 280 full- and part-time personnel (264 FTE, excluding 32 sworn sheriff personnel analyzed separately) in

1990. This staff level gives the county a level of service of 3.3 FTE personnel per 1,000 population for the 80,827 persons in the county. The county jail, courts and assessor's office are the largest departments in employment (Howard, 1992).

City of Kokomo

The city of Kokomo was incorporated in 1854, and functions as a mayor-council type of government. The full-time mayor and the nine members of the City Council are elected for four-year terms. Kokomo is the county seat for Howard County. In 1990, there were 312 full-time city employees (excluding 104 sworn police officers and 111 fire fighters analyzed separately). At a level of service of 6.9 FTE personnel per 1,000 population for the 44,962 persons, the city provides a full range of services, including city administration, planning and zoning, streets and sanitation, public safety, parks and recreation, and community social services (Kokomo Development Corporation, 1992).

Grissom Redevelopment Authority

The GRA was formed in December 1991 by Miami County and given authority to guide the redevelopment of Grissom AFB. The GRA has nine executive members and 35 committee members from the local area. Four of the executive members are appointed by virtue of their offices; the other five members are by nomination (Grissom Redevelopment Authority, 1992).

Closure Conditions

Because of the loss of population in Miami and Howard counties and the cities of Peru and Kokomo from base closure, decreased staffs could maintain 1990 levels of service (Table 3.5-1). Projected declining population in Miami County would permit the county staff level to be reduced by about 7 and still maintain preclosure public service levels of 4.3 per 1,000. The town of Bunker Hill could reduce staffing levels by one employee at closure; however, reductions in government services personnel are less likely because many of the town services are already at minimum staff levels. In the city of Peru, total staff levels could be reduced by seven positions. Local government staff levels in Howard County and the city of Kokomo could be reduced by three and four, respectively.

Assuming no other changes in staffing, these reductions would decrease local government staff levels at closure to 133 FTE employees in Miami County, 10 FTE personnel in Bunker Hill, 120 FTE employees in Peru, 261 FTE personnel in Howard County, and 308 FTE employees in Kokomo.

Table 3.5-1. Migratory-related Demand for Local Government Employees, 1990 to Closure

	1990	1991	1992	1993	Closure[a]
Miami County	7	6	5	4	0
Town of Bunker Hill	1	1	1	1	0
City of Peru	7	6	5	4	0
Howard County	3	3	2	2	0
City of Kokomo	4	3	3	2	0
Total	22	19	16	13	0

Notes: Local government employees represent the effects of migratory-related population changes on the number of government employees required. Data are to the nearest whole employee. Calculations are based on 1990 level of service ratios excluding on-base population.
(a) Closure represents September 1994 conditions.

3.5.2 Public Education

Recent Trends

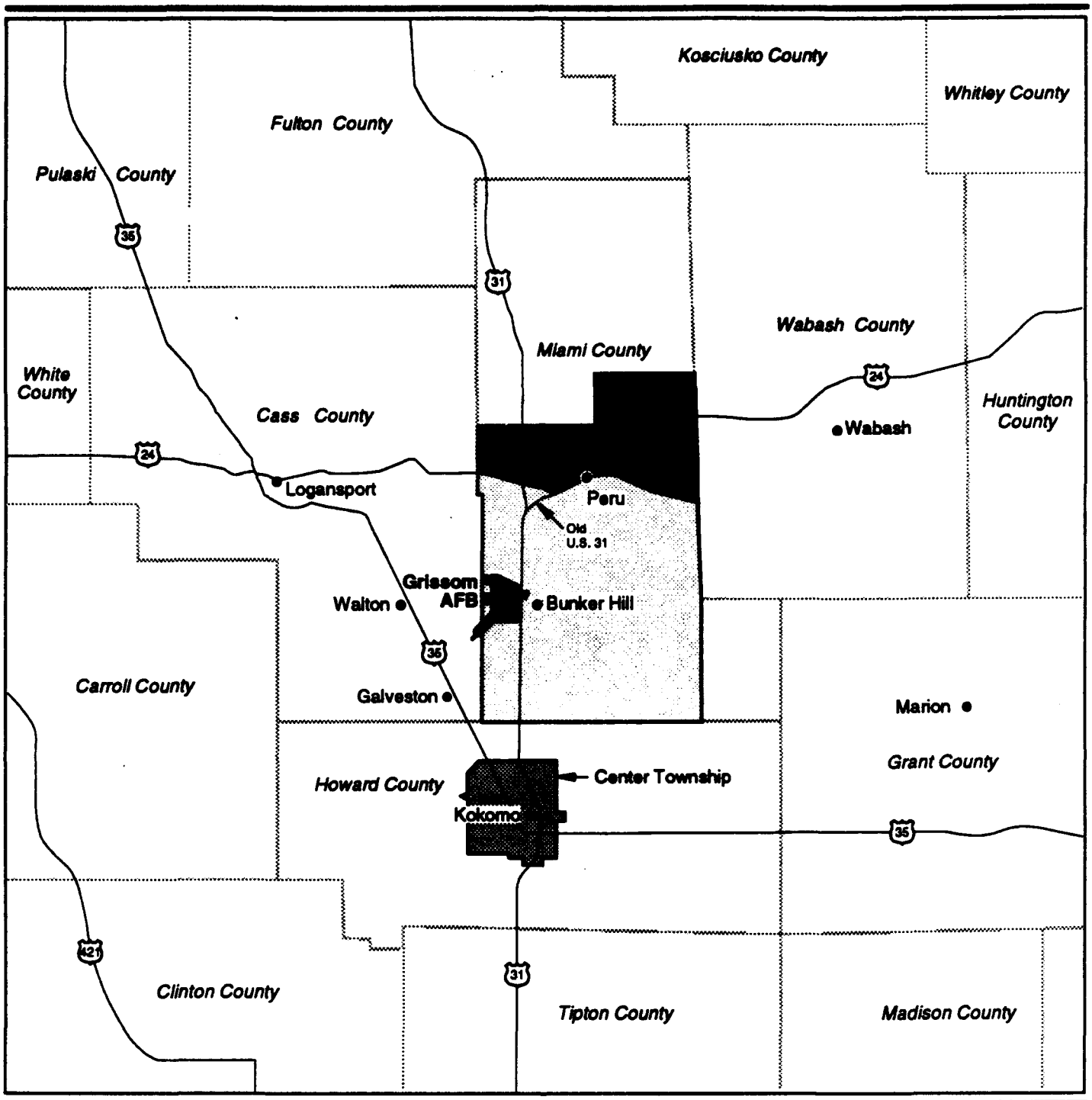
The public education analysis considers two distinct groups. The site-related enrollment refers to all school-age children of site-related employees (all direct and secondary employees associated with the base) within the school corporation ROI. The migratory enrollment refers to all school-age children of migratory employees (those employees that would leave the ROI due to closure).

The public education ROI is comprised of three public school corporations: the Maconaquah School Corporation; Peru Community School Corporation; and the Kokomo-Center Township Consolidated School Corporation. These three school corporations provide elementary and secondary education for more than 70 percent of students who are dependents of Grissom AFB personnel (Figure 3.5-1) and will be most affected by military and civilian personnel changes at Grissom AFB.

In 1990, the student/teacher ratio in the ROI was 18.5 (Table 3.5-2), compared to a state average of 16.9 (Arney, 1992) and a national average of 17.2 (Cook, 1992). Between 1990 and 1992, total enrollments in the ROI decreased at an average annual rate of 0.9 percent (Table 3.5-3). Declining enrollment is consistent with overall declining population in the ROI.

Maconaquah School Corporation

The Maconaquah School Corporation operates five schools in Miami County: three elementary schools, one middle school, and one high school. Grissom AFB is located within the boundaries of the corporation, which provides



EXPLANATION

- Peru Community School Corporation
- Maconaquah School Corporation
- Kokomo-Center Township Consolidated School Corporation
- 31 U. S. Highway
- County Line

School Corporation Boundaries

0 2 4 8 Miles

Figure 3.5-1

Table 3.5-2. Public School District Enrollment (K-12) and Student/Teacher Ratios

School Corporation	Enrollment	Teachers	Students/ Teacher
Fall 1990			
Maconaquah	2,824	158	17.9
Peru	2,833	152	18.6
Kokomo-Center	7,722	413	18.7
ROI Total	13,379	723	18.5
Fall 1991			
Maconaquah	2,723	158	17.2
Peru	2,866	156	18.4
Kokomo-Center	7,711	448	17.2
ROI Total	13,300	762	17.5
Fall 1992			
Maconaquah	2,739	152	18.0
Peru	2,817	155	18.2
Kokomo-Center	7,584	432	17.6
ROI Total	13,140	739	17.8

Note: Data are for school years, measured in the fall of each year.

ROI = Region of Influence.

Sources: Horner, 1992; Kokomo-Center Township Consolidated School Corporation, 1992a; Maconaquah School Corporation, 1991b; McKaig, 1992; Peru Community School Corporation, 1992a; Wilson, 1992.

primary and secondary education to residents of military family housing. There are no schools on base property, but the corporation does own and operate an elementary school immediately adjacent to the base housing area. Corporation enrollment, teaching staff, and service ratios are presented in Table 3.5-2. In fall 1992, with 2,739 students enrolled and a teaching staff of 152 personnel, the student/teacher ratio was 18.0. In fall 1990, with 2,824 students enrolled and a teaching staff of 158 personnel, the student/teacher ratio was 17.9.

Enrollment in the Maconaquah School Corporation has fluctuated over the past 4 years, with the highest total enrollment recorded in 1990. Between 1989 and 1992, enrollment in the corporation decreased from 2,781 to 2,739, a 1.5 percent change overall (Table 3.5-3). Schools in the corporation are operating below capacity due to a long-term decline in enrollment.

Table 3.5-3. Historic Fall Enrollment (K-12) in Public School Corporations in Grissom AFB Area: 1989-1992

School Corporation	Fall 1989	Fall 1990	Fall 1991	Fall 1992	Total % Change	Average Annual % Change
Maconaquah	2,781	2,824	2,723	2,739	-1.5	-0.5
Peru	2,867	2,833	2,866	2,817	-1.7	-0.6
Kokomo Center	7,809	7,722	7,711	7,584	-2.9	-1.0
ROI Total	13,457	13,379	13,300	13,140	-2.4	-0.8

Note: Data are for school years, measured in the fall of each year.

ROI = Region of Influence.

Sources: Kokomo-Center Township Consolidated School Corporation, 1992a; Maconaquah School Corporation, 1991b; Peru Community School Corporation, 1992a.

About 39 percent of the students in the Maconaquah School Corporation are dependents of Grissom AFB personnel. In fall 1992, dependents of military, direct, and secondary civilian personnel accounted for 1,066 of the corporation's enrollment of 2,739 (Table 3.5-4). Of these, 63 were estimated as being secondary enrollment (dependents of secondary workers).

Peru Community School Corporation

The Peru Community School Corporation serves the city of Peru and rural residential areas northeast and west of the city with five elementary schools, one middle school, and one high school. The enrollment in the corporation totalled 2,817 students in fall 1992. With 155 teachers employed, the student/teacher ratio was 18.2 (see Table 3.5-2). In fall 1990, with an enrollment of 2,833 and 152 teachers employed, the student/teacher ratio was 18.6.

Over the past 4 years, declining enrollment has been the overall trend in Peru Community School Corporation schools, leaving the schools with excess capacity. From 1989 to 1992, corporation enrollment decreased from 2,867 students to 2,817 students, a total change of 1.7 percent over the period (see Table 3.5-3). Of the 2,817 students enrolled in the corporation in fall 1992, approximately 11.4 percent, or 322 students, were military, civilian, or secondary dependents (site-related enrollment) associated with Grissom AFB (see Table 3.5-4). Of these, it is estimated that 86 were secondary enrollment.

Kokomo-Center Township Consolidated School Corporation

The Kokomo-Center Township Consolidated School Corporation encompasses Center Township and the city of Kokomo, and is located approximately 12 miles south of Grissom AFB. The corporation's seven

Table 3.5-4. Enrollment Related to Grissom AFB

Enrollment Breakdown	Fall 1989	Fall 1990	Fall 1991	Fall 1992
Maconaquah School Corporation				
Total Enrollment	2,781	2,824	2,723	2,739
Military Dependents	953	1,005	976	916
Civilian Dependents	91	120	125	87
Estimated Dependents of Secondary Workers	77	74	74	63
Total Site-Related Dependents	1,121	1,199	1,175	1,066
Site-Related Percentage of Total Enrollment	40.3	42.5	43.2	38.9
Peru Community School Corporation				
Total Enrollment	2,867	2,833	2,866	2,817
Military Dependents	100	122	111	100
Civilian Dependents	157	151	144	136
Estimated Dependents of Secondary Workers	105	99	100	86
Total Site-Related Dependents	362	372	355	322
Site-Related Percentage of Total Enrollment	12.6	13.1	12.4	11.4
Kokomo-Center Township Consolidated School Corporation				
Total Enrollment	7,809	7,722	7,711	7,584
Military Dependents	64	63	63	58
Civilian Dependents	87	86	86	71
Estimated Dependents of Secondary Workers	134	115	116	103
Total Site-Related Dependents	285	264	265	232
Site-Related Percentage of Total Enrollment	3.6	3.4	3.4	3.1

Note: Site-related enrollment figures are estimates from the respective school corporations. Estimates of Kokomo-Center Township Consolidated School Corporation military and civilian dependents are based on data from Grissom AFB educational services, and trends in the Maconaquah and Peru community school corporations. Civilian enrollment is based on direct federal employees including both appropriated and nonappropriated fund civilians. Data are for school years.

Sources: Kokomo-Center Township Consolidated School Corporation, 1992a; Maconaquah School Corporation, 1989, 1990, 1991a; Peru Community School Corporation, 1989, 1992a, 1992b.

elementary schools, four combined elementary/middle schools, and one high school are at capacity. The corporation has been closing older facilities as enrollment has declined over the past 10 years. In fall 1992, enrollment totalled 7,584 students. The corporation employed 432 teachers, for a student/teacher ratio of 17.6 (see Table 3.5-2). In fall 1990, with an enrollment of 7,722 and 413 teachers, the student/teacher ratio was 18.7.

Enrollment has been decreasing steadily in Kokomo-Center Township schools. It fell from 7,809 in 1989 to 7,584 in 1992, a total decrease of 2.9 percent over the period (see Table 3.5-3). The 232 students who were dependents of military, civilian, or secondary employees related to Grissom AFB (site-related enrollment), represented 3.1 percent of the corporation's

enrollment of 7,584 in fall 1992 (see Table 3.5-4). Of these, 103 were estimated to be secondary enrollment.

Colleges and Universities

Indiana Vocational Technical College (Ivy Tech) is a two-year regional technical college that provides residents of the four-county area surrounding Grissom AFB with a variety of technical and vocational programs. Classes are held at Grissom AFB and in Kokomo (main campus), Logansport, and Wabash. Ball State University also maintains an instructional center on the base. Approximately 300 military members, dependents, and civilians take advantage of the facilities at Grissom AFB and are enrolled in Ivy Tech or Ball State University courses.

Indiana University offers six associate and 15 bachelor degree programs at its Kokomo campus. Also in Kokomo, Purdue University offers five associate and two bachelor degree programs through its School of Technology. Non-credit courses are available at the universities, providing the opportunity for continuing education (Kokomo Development Corporation, 1992).

Closure Conditions

Potential migratory-related effects to public school enrollments and teaching staff due to base closure are presented in Table 3.5-5. The Maconaquah School Corporation would experience a 35.9 percent enrollment decrease between 1990 and closure. Peru Community School Corporation would experience a 4.7 percent enrollment decrease, with a 0.9 percent decrease occurring in the Kokomo-Center Township Consolidated School Corporation.

Table 3.5-5. Migratory-related Enrollment and Teaching Staff Effects, 1990 to Closure

	1990	1991	1992	1993	Closure[a]
Student Enrollment Effects					
Maconaquah S.C.	1,013	987	780	612	0
Peru S.C.	132	129	102	80	0
Kokomo-Center S.C.	73	71	56	44	0
Total	1,218	1,187	938	736	0
Teaching Staff Effects					
Maconaquah S.C.	57	55	44	34	0
Peru S.C.	7	7	5	4	0
Kokomo-Center S.C.	4	4	3	2	0
Total	68	66	52	40	0

Notes: Effects of migratory-related population changes on student enrollments and teaching staff requirements.
(a) Closure represents September 1994 conditions.
S.C. = School Corporation.

By closure, the migratory enrollment related to base operations would decline from 1,218 in 1990 to zero students. This would reduce total enrollment in the Maconaquah School Corporation from 2,824 to 1,811 students. In the Peru Community School Corporation, enrollment would drop from 2,833 to 2,701 and in the Kokomo-Center Township Consolidated School Corporation, enrollment would decline from 7,722 to 7,649, assuming no other changes in enrollment.

Corresponding reductions in migratory-related demand for teachers and facilities use would be expected to accompany these projected enrollment decreases (see Table 3.5-5). Assuming no other changes in staffing, the number of teachers needed to maintain the 1990 student/teacher ratio in the Maconaquah School Corporation would fall from 158 in 1990 to 101 at closure. In the Peru Community School Corporation the number of teachers required would be reduced from 152 in 1990 to 145 at closure, and in the Kokomo-Center Township Consolidated School Corporation the number of teachers would be reduced from 413 to 409. These staffing changes are based on fall 1990 student/teacher ratios applied to changes in total enrollment and do not account for distribution of effects at the grade level or other changes in enrollment.

3.5.3 Police Protection

Recent Trends

The ROI for police protection consists of Miami and Howard counties. Police protection is provided by the base security force, the Bunker Hill marshal's office, the city of Peru and the city of Kokomo police departments, and the Miami and Howard county sheriff's departments. The Miami and Howard county sheriffs' departments also operate jail facilities for the two-county ROI. The Miami County Jail is located in the city of Peru and the Howard County Jail is located in the city of Kokomo. These facilities serve all local law enforcement agencies in the two counties.

Miami County Sheriff's Department

The Miami County Sheriff's Department provides law enforcement and police protection services for all persons living in the county. The department operates out of the main sheriff's office located in the city of Peru with a staff of seven sworn officers. The county sheriff's 1990 level of service was 0.2 officers per 1,000 population for the 32,897 persons living off base (population living in base housing is served by the base security police), or an area-generated level of service ratio of 48.6 square miles per sworn officer for the 340-square-mile service area. The sheriff's department maintains nine marked and unmarked cars. The sheriff's department also operates the county jail facilities, which employed 13 people in 1990. The

jail facility is located in the city of Peru and has a capacity of 50 inmates. The jail facilities operated at capacity in 1992.

The sheriff's department maintains mutual aid agreements with the Peru Police Department and all town marshals within the county, including Bunker Hill. The sheriff's department also has mutual aid agreements with other sheriff's departments in the adjacent counties of Howard, Cass, Wabash, and Fulton. The department works cooperatively with Grissom AFB but has no formal mutual aid agreement with the base (Rich, 1992).

Bunker Hill Marshal's Office

In 1991, the town of Bunker Hill created a marshal's office that provides law enforcement and police protection within the corporate limits of the town. It is a single-person operation providing all police protection services. The marshal's office is located in the town hall. With a 1990 population of 1,010, the marshal provides a level of service ratio of 1.0. The marshal has an agreement with Miami County Sheriff's Department for mutual aid in law enforcement.

Peru Police Department

The Peru Police Department provides law enforcement and police protection services within the city of Peru. The department operates out of a single police station located in the city. Staffing in 1990 included 26 sworn officers. The city's level of service for police protection is 2.0 sworn officers per 1,000 population for the 12,843 persons in the city. The department maintains nine marked and unmarked cars. The department has a holding cell which is used only for temporary detention. For incarceration and corrections services, the department relies on the county jail operated by the Miami County Sheriff's Department (Hahn, 1992).

The Peru Police Department maintains mutual aid agreements with the Miami County Sheriff's Department, Indiana State Police, and other local municipal police departments (Hahn, 1992). While the department has maintained good working relations with the base security police, they do not have any formal aid agreements. Occasionally, the department has made use of the base K-9 Unit as part of this working relationship.

Howard County Sheriff's Department

The Howard County Sheriff's Department provides law enforcement and police protection service for the entire county. Operating from a single station in the city of Kokomo, the department had approximately 32 sworn officers in 1990. This number of sworn personnel represents a level of service for police protection of 0.4 officers per 1,000 population for the 80,827 persons in the county. The department maintains a total of 33

marked and unmarked vehicles. The sheriff's department operates the county jail located in Kokomo, which employed 24 people in 1990, including 12 corrections officers (not sworn officers). The jail has a capacity of 100 inmates, and operated at capacity in 1992. In March 1993, the department will move into a new facility that will consolidate all department functions and provide a new jail facility with a capacity of 148 inmates (Templin, 1992).

Howard County Sheriff's Department has mutual aid agreements with the Kokomo Police Department and other law enforcement agencies in the county, as well as the six surrounding county sheriff's departments and the Indiana State Police. While the department has made use of the base K-9 bomb unit, there is no formal agreement with the base Security Police.

Kokomo Police Department

The Kokomo Police Department provides police protection to the incorporated city of Kokomo. With 104 sworn officers, the department maintained a 1990 level of service of 2.3 police officers per 1,000 population for the 44,962 persons in the city. The department operates out of a single station within the city, and maintains 65 marked and unmarked vehicles and a K-9 unit. While the department has temporary holding facilities, all detention activities are handled through the Howard County Jail.

The Kokomo Police Department maintains mutual aid agreements with the Howard County Sheriff's Department and other local law enforcement agencies in the county, as well as the Indiana State Police. While the department has received assistance from the base for training and use of the K-9 bomb unit on several occasions, there is no formal mutual aid agreement with the base (Rudolph, 1992).

305th Security Police Squadron

Law enforcement and security within the boundaries of Grissom AFB are provided by the 305th Security Police Squadron. This includes security for the 434th Wing located on base. The squadron maintains a staff of 168 total personnel, 45 of whom are equivalent to sworn law enforcement officers. The squadron operates from one station on the base with 21 vehicles, including a van and a bus. The squadron operates a confinement facility with a six-bed capacity that can be used for up to one year of confinement. The Security Police maintain a policy of cooperation with all local off-base law enforcement agencies; however, there are no formal mutual aid agreements due to separation of federal and local law enforcement jurisdictions under the Posse-Comitatus Act.

Closure Conditions

Projected effects on police protection in the ROI resulting from base closure are presented in Table 3.5-6. Changes in demand for police protection services reflect the pattern of migratory population changes in the region. The reduction in the number of sworn officers at closure due to decreased police protection requirements would be minimal. The Miami County Sheriff's Department and the Peru and Kokomo police departments could each reduce the number of officers by one and maintain their 1990 levels of service. The staffing level of the Howard County Sheriff's Department and the Bunker Hill Marshal would be unaffected by closure of the base.

Table 3.5-6. Migratory-related Demand for Police Officers, 1990 to Closure

	1990	1991	1992	1993	Closure[a]
Miami County Sheriff's Dept.	1	1	1	1	0
Bunker Hill Marshal's Office	0	0	0	0	0
Peru Police Dept.	1	1	1	1	0
Howard County Sheriff's Dept.	0	0	0	0	0
Kokomo Police Dept.	1	1	1	1	0
Total	3	3	3	3	0

Notes: Effects of migratory-related population changes on number of sworn officers required. Data are rounded to the nearest whole police officer. Therefore, with the exception of the closure column, zeroes may represent less than one officer.
(a) Closure represents September 1994 conditions.

With the closure of the base, the 305th Security Police Squadron would no longer provide police protection for the base area. The base area, including the housing area, will remain fenced with site security maintained by both the 434th Wing and the OL. A security force consisting of DOD civilian security personnel will be added to the 434th Wing support group to provide security and law enforcement services in the cantonment. OL will provide separate security for the remainder of the base.

The Miami County Sheriff's Department would supplement the OL security force as necessary for law enforcement on the base, since it is located in an unincorporated portion of the county. Under closure conditions, the Sheriff's Department would not be required to patrol the base on a regular basis, though occasional calls may be made to assist OL security personnel. Therefore, no additional sheriff's officers are anticipated to be required to provide police protection services to the base area.

3.5.4 Fire Protection

Recent Trends

The ROI for fire protection includes the Peru Fire Department, the Pipe Creek Volunteer Fire Department, the Kokomo Fire Department, and Grissom AFB Fire Department. Fire protection in the Grissom AFB region is provided chiefly by the base, city, and rural fire departments. The city fire departments consist of full-time fire fighters; however, the rural fire departments are all volunteer departments. Each fire department maintains specific mutual aid agreements and cooperates with others of the region during emergencies.

Peru Fire Department

The Peru Fire Department provides fire protection and emergency medical services for the city of Peru and portions of Peru township. The department had 31 full-time professional fire fighters in 1990. The department maintains a level of service of 2.2 fire fighters per 1,000 population in the service area. The department operates three engines, one ladder truck, two 1,000-gallon tankers, and a rescue squad from three stations located in Peru (Click, 1992).

The Peru Fire Department is a member of the Miami County Fire Association which provides for mutual aid between the city, six other county fire departments, and the Grissom AFB Fire Department.

Pipe Creek Township Volunteer Fire Department

The Pipe Creek Fire Department is a rural volunteer department that serves an area comprising Pipe Creek township, including the town of Bunker Hill; Washington Township; the northern half of Deer Creek Township, including the community of Miami; and the western half of Clay Township. The service area is approximately 65 square miles, which is equivalent to an area-generated level of service ratio of 2.5 square miles of service area per fire fighter. With one station located in Bunker Hill, the department had 26 volunteer fire fighters in 1990. Considering these volunteers as full-time fire fighters, the 1990 level of service is 4.1 fire fighters per 1,000 population. The department operates three engines, one 1,500-gallon tanker, one rescue squad, and a 250-gallon water tender (truck) for wildland fires. Emergency dispatching for the department is provided by Grissom AFB Fire Department. The Pipe Creek Fire Department is also a member of the Miami County Fire Association for mutual aid assistance with the Peru Fire Department, five other rural fire departments, and the base fire department (Miami County Fire Association, 1991).

Kokomo Fire Department

Fire protection in the city of Kokomo is provided by the Kokomo Fire Department. The department also provides contracted services to Center Township. In 1990, the department had 111 full-time fire fighting personnel located in five stations throughout the city. The department maintains a level of service of 2.2 fire fighters per 1,000 population. Major fire fighting equipment includes six engines, two ladder trucks, one snorkel, a hazardous materials response vehicle, one township engine, two ambulances, one standby aerial ladder truck, one standby engine, and two battalion chief cars. The department maintains direct-feed-dispatch for major industrial sites in the city.

The Kokomo Fire Department has joined with four rural fire departments, the Indian Heights Volunteer Fire Department, and the Grissom AFB Fire Department in a mutual aid agreement (Laird, 1992).

Grissom AFB Fire Department

The Grissom AFB Fire Department (305th Civil Engineering Squadron) provides fire protection services for the base area with 57 fire fighting (42 military and 15 civilian) personnel. Four base fire fighters are also volunteers in various local city and county fire departments (one in Peru, one in Pipe Creek, and two in Indian Heights near Kokomo). The squadron operates out of one fire station with 13 pieces of major equipment, including two engines, four crash trucks, one rescue vehicle, two ramp vehicles for rapid response with dry chemicals, two command vehicles, one general-purpose vehicle, and one 2,000-gallon water tanker. The base fire department maintains mutual support through agreements with the Peru, Pipe Creek, and five other rural fire departments in Miami County; Kokomo Fire Department; and Walton, Galveston, and Logansport fire departments in Cass County.

Closure Conditions

Potential effects of base closure on fire protection services in the ROI are presented in Table 3.5-7. Changes in demand for fire protection services would decrease the number of volunteer fire fighters needed to 20 in the Pipe Creek Township Volunteer Fire Department (a reduction of 6). The Peru Fire Department would decrease by 2 to a new total of 29 and the Kokomo Fire Department would decrease by 1 to a new total of 110.

Upon closure of the base, with portions of Grissom AFB in caretaker status, the base fire department will increase by 4 (61 fire fighting personnel) and provide fire protection services for the cantonment which will be used for the 434th Wing. Local fire districts and communities will probably continue to rely on mutual aid assistance from the base fire department for fire

Table 3.5-7. Migratory-related Demand for Fire Fighters, 1990 to Closure

	1990	1991	1992	1993	Closure[a]
Peru Fire Dept.	2	2	2	1	0
Pipe Creek Fire Dept.	6	6	5	4	0
Kokomo Fire Dept.	1	1	1	1	0
Total	9	9	8	6	0

Notes: Effects of migratory-related population changes on number of fire fighters required to maintain level of service ratios. Data are rounded to the nearest whole fire fighter, except in the closure column.
(a) Closure represents September 1994 conditions.

protection, fire suppression, and rescue. At closure, the OL will provide for fire protection services either through the new 434th Wing fire department, or some other contractual arrangement. The Pipe Creek Township Volunteer Fire Department would provide mutual aid support but would not require any additional fire fighters.

3.5.5 Health Care

Recent Trends

Five acute and general care hospitals or health care facilities are licensed to provide health care services within Miami, Howard, Cass, and Wabash counties. These facilities contain more than 860 in-patient beds (Indiana State Department of Health, 1991). There are 217 physicians, 83 dentists, 1,439 registered nurses (RNs), and 548 licensed practical nurses registered to practice in the four-county ROI (Price, 1992). In 1992, physicians and RNs in the ROI provided service levels of 1.1 physicians and 7.5 RNs per 1,000 people, compared to state averages of 2.9 physicians and 11.2 RNs per 1,000 people.

Community Health Care Services

The largest in-patient health care provider in the ROI is the Howard Community Hospital in Kokomo. This hospital is licensed for 249 beds and operates at 45 percent capacity. It provides basic acute and primary medical care, along with general and specialized medical and surgical services, outpatient and ambulatory care, and emergency and trauma care. The Howard County Ambulance Service is based at the hospital. The ambulance service has advanced life support capability and is staffed by paramedics and emergency medical technicians.

Four other acute care hospitals are located in the ROI: Dukes Memorial Hospital in Peru (158 beds), St. Joseph Hospital in Kokomo (220 beds),

Memorial Hospital in Logansport (112 beds), and Wabash County Hospital in Wabash (124 beds). A hospital-based ambulance service in each county provides emergency medical services within the county. A helicopter ambulance service can be accessed from Indianapolis or Fort Wayne when needed. Mental health services are available from the Four County Mental Health Center in Peru, a regional mental health treatment facility that also provides consulting services.

Military Health Care Services

Grissom AFB operates a medical clinic that provides outpatient health care services to active duty military personnel and their dependents, retired military personnel and their dependents, and to dependents of deceased military personnel. Out-patient services at the Grissom AFB clinic include primary care, gynecology and obstetrics, podiatry, optometry, general dentistry, mental health, and ambulance services. In addition, a pharmacy and medical laboratory operate on-site. The clinic served 63,328 out-patients and filled 130,133 prescriptions in 1990 (U.S. Air Force, 1990a).

Other DOD installations where medical care is available to active duty and retired military personnel include Hawley Army Community Hospital at Fort Benjamin Harrison in Indianapolis, Indiana; Great Lakes Naval Hospital north of Chicago, Illinois; and Wright-Patterson Medical Center in Dayton, Ohio. These facilities are, respectively, 60, 150, and 185 miles from Grissom AFB. The closest Veterans Administration (VA) hospital is in Marion, Indiana, about 30 miles east of the base. Additional VA medical facilities are located in Fort Wayne and Indianapolis, Indiana.

In addition to military health services offered through the base clinic, military personnel and dependents have access to the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). This is a co-payment medical plan, with an annual deductible, that provides payment for specific medical services to eligible dependents of active, retired, or deceased military personnel. Active duty military personnel are covered by the program for medical services not available at their base, or for emergencies. As with many insurance plans, CHAMPUS pays approximately three-quarters of the set rate for a given medical service. CHAMPUS is honored by hospitals, clinics, and doctors nationwide, including the health care facilities mentioned in this report. Because there are limitations and constraints to the coverage offered by CHAMPUS, retired military personnel are encouraged to supplement this health care plan with secondary coverage.

Closure Conditions

At base closure, the Grissom AFB clinic will be closed. The five acute care hospitals and health care facilities located within the ROI, and the various resident medical personnel in the ROI, would be adequate to provide

medical, dental, and emergency services as required by the residents of the ROI. Those most affected by the closure of the clinic will be the 2,323 retirees, plus associated dependents, projected to remain in the region. The Hawley Army Community Hospital, located 60 miles south of the base in Indianapolis, is the nearest military facility where they could obtain free medical services. Although veterans will not be able to use the base clinic, they will be able to continue to take advantage of the VA hospital and clinic facilities in Marion, Indianapolis, and Fort Wayne.

In preparation for the closure of the clinic, the 305th Medical Services group at Grissom AFB designed a program to arrange for the care of retirees and dependents following closure. A survey was sent to 7,762 retirees in the northern half of the state (north of Indianapolis) to identify medical needs. Approximately 800 retirees responded. Patient needs were matched with local civilian resources, and respondents were sent a list of the appropriate primary care physicians in their area who participate in the CHAMPUS program.

3.6 PUBLIC FINANCE

The financial characteristics of the ROI for public finance defined in Chapter 2 as Miami County; the Town of Bunker Hill; the City of Peru; Howard County; the City of Kokomo; Maconaquah School Corporation; Peru Community School Corporation; and the Kokomo-Center Township Consolidated School Corporation, are presented below. Recent trends are discussed first and are followed by discussion of the effects associated with base closure.

3.6.1 Miami County

Recent Trends

Services provided by Miami County are funded principally through the county's general and special revenue funds. In FY 1991, revenues and expenditures of these funds were $9,636,740 and $10,234,056, respectively. Fund balances were $3,188,805 or about 31.2 percent of operating expenditures (Table 3.6-1). This was a decrease from FY 1989, when fund balances were $3,374,602, or about 43.4 percent of operating expenditures.

The principal revenue sources of the county are taxes (45.8 percent of total FY 1991 general and special revenue fund collections) and intergovernmental revenues (34.6 percent of total FY 1991 collections).

The principal expenditure functions of the county are for general government (44.9 percent of total FY 1991 expenditures), highway and street services

Table 3.6-1. Miami County Revenues, Expenditures, and Fund Balances, General and Special Revenue Funds, FY 1989-1991 (current dollars)

	1989	1990	1991
Revenues			
Taxes	3,130,653	4,339,291	4,418,322
Licenses and Permits	1,170	1,828	470
Intergovernmental	3,111,256	3,275,482	3,331,157
Charges for Services	312,823	367,324	174,921
Miscellaneous	698,204	1,096,242	1,711,870
Total	7,254,106	9,080,167	9,636,740
Expenditures			
General Government	2,638,780	2,812,918	4,590,105
Public Safety	930,701	1,145,158	1,303,218
Highways and Streets	2,104,349	2,404,547	2,183,616
Culture and Recreation	48,009	66,093	57,495
Health and Welfare	1,657,741	1,953,826	2,099,622
Other	394,198	636,889	0
Total	7,773,778	9,019,431	10,234,056
Fund Balances [a]	3,374,602	3,344,833	3,188,805

Note: (a) Includes interfund transfers to and from funds other than general and special revenue funds; thus fund balances will not total.

FY = fiscal year.

Sources: Indiana State Board of Accounts, 1990a, 1991, 1992a.

(21.3 percent), and health and welfare services (20.5 percent of total FY 1991 expenditures).

Assessed valuation in the county is approximately $180.3 million. The county had approximately $2.1 million in outstanding general obligation bond indebtedness as of the end of FY 1991.

Closure Conditions

Reduced site-related earnings, lower employment, and out-migration of 5,553 residents from 1990 levels are projected to result in reductions in general and special revenue fund revenues of $763,538 by closure. Lower intergovernmental revenues ($472,005) and taxes ($155,484) account for 82 percent of the lost revenue.

Losses in revenue would be partially offset by a reduction in expenditures of $546,415. The net fiscal effect of closure would be a revenue shortfall of $217,123 annually (Table 3.6-2). Increases in local tax and non-tax revenue

Table 3.6-2. Net Fiscal Effects of Closure of Grissom AFB on Potentially Affected Local Government Units, FY 1990 to Closure (1989 dollars)

Jurisdiction	FY 1990	FY 1991	FY 1992	FY 1993	Closure
Miami County	0	0	-45,161	-80,390	-217,123
Bunker Hill	0	-431	-1,170	-1,786	-4,928
Peru	0	-735	-1,932	-2,940	-7,560
Howard County	0	-3,108	-8,507	-13,006	-37,342
Kokomo	0	-2,663	-7,295	-11,175	-31,555
Maconaquah School Corp.	0	-37,314	-353,386	-613,503	-1,529,960
Peru Community School Corp.	0	4,721	-13,192	-28,716	-72,303
Kokomo-Center Township Consolidated School Corp.	0	-688	-5,850	-9,979	-25,119

Note: Data reflect the difference in projected revenue losses less expenditure reductions.

FY = fiscal year.

schedules and/or lower service levels may be required to maintain a balanced fiscal position at closure.

3.6.2 Town of Bunker Hill

Recent Trends

Services provided by Bunker Hill are funded principally through the town's general and special revenue funds. In FY 1990, revenues and expenditures of these funds were $217,701 and $205,691, respectively. Fund balances were $272,566, or about 132.5 percent of operating expenditures (Table 3.6-3). By comparison, in FY 1989, fund balances were $250,556, or about 144.8 percent of operating expenditures.

The principal revenue sources of the town are taxes (52.4 percent of total FY 1990 general and special revenue fund collections) and fines and forfeits (24.6 percent of FY 1990 collections).

The principal expenditure functions of the town are general government (59.1 percent of total FY 1990 expenditures) and public safety (22.2 percent of total FY 1990 expenditures).

Assessed valuation in the town is approximately $2.5 million. The town had no outstanding general obligation bond indebtedness as of the end of FY 1990.

Table 3.6-3. Town of Bunker Hill Revenues, Expenditures, and Fund Balances, General and Special Revenue Funds, FY 1989-1990 (current dollars)

	1989	1990
Revenues		
Taxes	126,295	114,107
Licenses and Permits	746	825
Intergovernmental	28,999	29,036
Charges for Services	6	18
Fines and Forfeits	46,872	53,634
Miscellaneous	18,712	20,081
Total	221,630	217,701
Expenditures		
General Government	100,554	121,659
Public Safety	23,356	45,764
Highways and Streets	42,418	37,396
Cultural and Recreation	6,753	872
Total	173,081	205,691
Fund Balances[a]	250,556	272,566

Notes: Audit reports for town prepared on biennual basis. As of October 1992, audit reports for FY 1991 and FY 1992 were not expected to be available until late 1993.
(a) Includes interfund transfers to and from funds other than general and special revenue funds; thus fund balances will not total.

FY = fiscal year.

Source: Indiana State Board of Accounts, 1992f.

Closure Conditions

Reduced site-related earnings, lower employment, and out-migration of approximately 80 residents from 1990 levels are projected to result in reductions in general and special revenue fund revenues of approximately $9,240 by closure. Lower fines and forfeits ($4,000) and taxes ($2,240) account for 68 percent of the lost revenue.

Losses in revenue would be partially offset by a reduction in expenditures of about $4,312. The net fiscal effect of closure would be a revenue shortfall of $4,928 annually (see Table 3.6-2).

Increases in local tax revenue schedules and/or lower service levels may be required to maintain a balanced fiscal position at closure.

3.6.3 City of Peru

Recent Trends

Services provided by Peru are funded principally through the city's general and special revenue funds. In FY 1991, revenues and expenditures of these funds were $4,716,439 and $4,774,767, respectively. Fund balances were $1,072,704, or about 22.5 percent of operating expenditures (Table 3.6-4). This was a decrease from FY 1989, when fund balances were $1,226,353, or about 32.7 percent of operating expenditures.

Table 3.6-4. City of Peru Revenues, Expenditures, and Fund Balances, General and Special Revenue Funds, FY 1989-1991 (current dollars)

	1989	1990	1991
Revenues			
Taxes	2,596,712	2,458,950	3,139,157
Licenses and Permits	11,350	9,363	11,387
Intergovernmental	531,158	770,718	768,595
Charges for Services	224,529	196,293	378,203
Fines and Forfeits	16,565	40,172	10,713
Miscellaneous	506,314	558,817	408,384
Total	3,886,628	4,034,313	4,716,439
Expenditures			
General Government	1,007,132	1,205,971	1,321,551
Public Safety	1,681,922	1,762,541	1,958,216
Highways and Streets	385,278	332,519	401,329
Health and Sanitation	403,906	369,185	522,932
Cultural and Recreation	219,737	240,515	312,631
Other	55,121	129,591	258,108
Total	3,753,096	4,040,322	4,774,767
Fund Balances [a]	1,226,353	987,443	1,072,704

Note: (a) Includes interfund transfers to and from funds other than general and special revenue funds; thus fund balances will not total.

FY = fiscal year.

Sources: Indiana State Board of Accounts, 1992b, 1992g; Peru, City of, n.d.

The principal revenue sources of the city are taxes (66.6 percent of total FY 1991 general and special revenue fund collections), and intergovernmental revenue (16.3 percent of total FY 1991 collections).

The principal expenditure functions of the city are public safety (41.0 percent of total FY 1991 expenditures) and general government (27.7 percent of total FY 1991 expenditures).

Assessed valuation in the city is approximately $55.4 million. The city had no general obligation bond indebtedness outstanding at the end of FY 1991.

Closure Conditions

Reduced site-related earnings, lower employment, and out-migration of approximately 720 residents from 1990 levels are projected to result in reductions in general and special revenue fund revenues of $93,600 by closure. Lower intergovernmental revenue ($41,760) and charges for services ($10,800) account for 56 percent of the lost revenues.

Losses in revenue would be partially offset by a reduction in expenditures of about $86,040. The net fiscal effect of closure would be a revenue shortfall of $7,560 annually (see Table 3.6-2).

Increases in local tax revenue schedules and/or lower service levels may be required to maintain a balanced fiscal position at closure.

3.6.4 Howard County

Recent Trends

Services provided by Howard County are funded principally through the county's general and special revenue funds. In FY 1990, revenues and expenditures of these funds were $20,041,888 and $19,922,412, respectively. Fund balances were $4,396,244, or about 22.1 percent of operating expenditures for this year (Table 3.6-5). This compares to FY 1989, when fund balances were $4,084,946, or about 23.4 percent of operating expenditures.

The principal revenue sources of the county are taxes (51.3 percent of total FY 1990 general and special revenue fund collections) and intergovernmental revenues (33.9 percent of total FY 1990 collections).

The principal expenditure functions of the county are for general government (36.2 percent of total FY 1990 expenditures); and health and welfare services (29.1 percent of total FY 1990 expenditures).

Assessed valuation in the county is approximately $726.8 million. The county had approximately $18.5 million in outstanding general obligation bond indebtedness as of the end of FY 1990.

Table 3.6-5. Howard County General and Special Revenue Fund Revenues, Expenditures, and Fund Balances, FY 1989-1990 (current dollars)

	1989	1990
Revenues		
Taxes	9,400,037	10,281,964
Intergovernmental	5,638,505	6,801,958
Charges for Services	886,661	1,234,601
Fines, Forfeits, Licenses, & Permits	35,112	369
Miscellaneous	2,074,115	1,722,996
Total	18,034,430	20,041,888
Expenditures		
General Government	6,599,837	7,207,717
Public Safety	2,882,650	3,564,541
Highways and Streets	3,081,059	3,297,907
Health and Welfare	4,845,507	5,806,955
Culture and Recreation	38,764	39,592
Urban Redevelopment and Housing	39,846	5,700
Total	17,487,663	19,922,412
Fund Balances [a]	4,084,946	4,396,244

Notes: As of March 1993, audit reports for FY 1991 were unavailable.
(a) Includes interfund transfers to and from funds other than general and special revenue funds; thus fund balances will not total.

FY = fiscal year.

Sources: Indiana State Board of Accounts, 1990c, 1992d.

Closure Conditions

Reduced site-related earnings, lower employment, and out-migration of 913 residents from 1990 levels are projected to result in reductions in general and special revenue fund revenues of $114,125 by closure. Lower intergovernmental revenues ($73,953) and taxes ($17,347) account for 80 percent of the lost revenue.

Losses in revenue would be partially offset by a reduction in expenditures of $76,783. The net fiscal effect of closure would be a revenue shortfall of $37,342 annually (see Table 3.6-2).

Increases in local tax and non-tax revenue schedules and/or lower service levels may be required to maintain a balanced fiscal position at closure.

3.6.5 City of Kokomo

Recent Trends

Services provided by Kokomo are funded principally through the city's general and special revenue funds. In FY 1991, revenues and expenditures of these funds were $23,338,924 and $27,706,554, respectively. Fund balances were $8,531,643, or about 30.8 percent of operating expenditures (Table 3.6-6). This compares to FY 1989, when fund balances were $6,114,842, or about 31.9 percent of operating expenditures.

Table 3.6-6. City of Kokomo General and Special Revenue Fund Revenues, Expenditures, and Fund Balances, FY 1989-1991 (current dollars)

	1989	1990	1991
Revenues			
Taxes	14,441,603	16,813,575	18,327,233
Licenses and Permits	87,213	84,637	71,813
Intergovernmental	3,318,207	2,810,357	3,086,169
Charges for Services	505,300	562,778	645,489
Fines and Forfeits	28,326	36,220	95,419
Miscellaneous	908,240	1,220,178	1,112,801
Total	19,288,889	21,527,745	23,338,924
Expenditures			
General Government	5,641,721	6,486,310	12,174,032
Public Safety	7,436,069	8,178,616	8,373,090
Highways and Streets	2,335,788	2,210,477	3,040,122
Sanitation	613,411	754,207	776,325
Culture and Recreation	1,268,930	1,423,551	1,788,117
Urban Redevelopment and Housing	1,873,077	1,475,093	1,554,868
Total	19,168,996	20,528,254	27,706,554
Fund Balances [a]	6,114,842	7,244,274	8,531,643

Note: (a) Includes interfund transfers to and from funds other than general and special revenue funds; thus fund balances will not total.

FY = fiscal year.

Sources: Indiana State Board of Accounts, 1990b, 1992c, 1993.

The principal revenue sources of the city are taxes (78.5 percent of total FY 1991 general and special revenue fund collections), and intergovernmental revenue (13.2 percent of total FY 1991 collections).

The principal expenditure functions of the city are general government (43.9 percent of total FY 1991 expenditures) and public safety (30.2 percent of total FY 1991 expenditures).

Assessed valuation in the city is approximately $416.1 million. The city had no general obligation bond indebtedness outstanding at the end of FY 1990.

Closure Conditions

Reduced site-related earnings, lower employment, and out-migration of approximately 546 residents from 1990 levels are projected to result in reductions in general and special revenue fund revenues of $83,930 by closure. Lower intergovernmental revenue ($32,155) and taxes ($29,430) account for 73 percent of the lost revenues.

Losses in revenue would be partially offset by a reduction in expenditures of about $52,375. The net fiscal effect of closure would be a revenue shortfall of $31,555 annually (see Table 3.6-2).

Increases in local tax revenue schedules and/or lower service levels may be required to maintain a balanced fiscal position at closure.

3.6.6 Maconaquah School Corporation

Recent Trends

Services provided by the Maconaquah School Corporation are funded principally through the corporation's general fund. In FY 1991, revenues and expenditures of this fund were $10,164,383 and $8,902,243, respectively. Fund balances were $1,638,008 or about 18.4 percent of operating expenditures (Table 3.6-7). This was an increase over FY 1990, when fund balances were $367,931, or about 3.7 percent of operating expenditures.

State revenue accounts for the majority of general fund revenues (65.8 percent of FY 1991 general fund revenues). P.L. 81-874 program revenues were $1,241,742 in FY 1991 and $1,100,426 in FY 1990. Local source revenue (principally property taxes) and other federal aid programs account for the remaining revenue sources.

The principal expenditure by the corporation is for direct instruction (55.1 percent of total FY 1991 expenditures). Support services (administration and physical plant maintenance and operation) and other miscellaneous expenditures account for the remaining expenditures.

Closure Conditions

Reduced enrollments of 1,013 students will result in reduced general fund revenues of $4,082,214 by closure. Revenue losses would include a

Table 3.6-7. Maconaquah School Corporation Revenues, Expenditures, and Fund Balances, General Fund, FY 1990-1991 (current dollars)

	1990	1991
Revenues		
Local Sources	1,612,179	1,975,282
State Sources	6,069,777	6,692,440
Federal Sources	1,208,441	1,496,661
Total	8,890,397	10,164,383
Expenditures		
Instruction	5,532,230	4,901,526
Support Services	4,004,030	3,740,897
Other	488,485	259,820
Total	10,024,745	8,902,243
Fund Balances [a]	367,931	1,638,008

Note: (a) Includes interfund transfers to and from funds other than general fund; thus fund balances will not total.

FY = fiscal year.

Source: Indiana State Board of Accounts, 1992e.

reduction of $2,245,821 in state source revenues as a result of migratory-related enrollment decreases and a loss of $1,239,736 in P.L. 81-874 program revenues.

These losses could be partially offset by reductions in expenditu $2,552,254. The net fiscal effect of closure would be a revenue shortfall of $1,529,960 annually. Reductions in service levels and/or increases in other revenue sources would be required to maintain a balanced fiscal position.

3.6.7 Peru Community School Corporation

Recent Trends

Services provided by the Peru Community School Corporation are funded principally through the corporation's general fund. In FY 1992, revenues and expenditures of this fund were $11,659,139 and $11,214,137, respectively. Fund balances showed a deficit of $833,168 (Table 3.6-8). This represents an improvement compared to FY 1990, when fund balances showed a deficit of $1,232,922.

State revenue is the leading source of general fund revenues (56.3 percent of FY 1992 general fund revenues). P.L. 81-874 program revenues were $9,292 in FY 1992, down from FY 1990 levels of $16,973. Local source

Table 3.6-8. Peru Community School Corporation Revenues, Expenditures, and Fund Balances, General Fund, FY 1990-1992 (current dollars)

	1990	1991	1992
Revenues			
Local Sources	2,239,878	2,574,674	2,609,746
State Sources	6,134,476	6,520,817	6,559,611
Federal Sources	16,973	8,070	9,292
Other[a]	1,066,656	116,234	2,480,490
Total	9,457,983	9,219,795	11,659,139
Expenditures			
Instruction	5,253,256	5,623,876	5,671,584
Support Services	2,715,025	2,976,876	3,193,446
Other[b]	1,570,188	664,291	2,349,107
Total	9,538,469	9,265,043	11,214,137
Fund Balances	1,232,922	1,278,170	833,168

Notes: (a) Includes proceeds from loans, sale of property, interest on investments, and transfers from other funds; thus fund balances will not total.
(b) Includes loan repayment, transfers to other funds, community services, and non-program charges.
FY = fiscal year.

Source: Peru Community School Corporation, n.d.

revenue (principally property taxes) and other federal aid programs account for the remaining revenue sources.

The principal expenditure by the corporation is for direct instruction (50.6 percent of FY 1992 general fund expenditures). Support services (administration and physical plant maintenance and operation) and other miscellaneous expenditures account for the remaining expenditures.

Closure Conditions

Reduced enrollments of 132 students will result in reduced general fund revenues of $376,629 by closure. This will include a reduction of $268,224 in state source revenues (the principal revenue source affected) as a result of migratory-enrollment decreases, and a loss of $10,461 in P.L. 81-874 program revenues.

These losses could be partially offset by reductions in expenditures of $304,326. The net fiscal effect of closure would be a revenue shortfall of $72,303 annually. Reductions in service levels and/or increases in other revenue sources may be required to maintain a balanced fiscal position.

3.6.8 Kokomo-Center Township Consolidated School Corporation

Recent Trends

Services provided by the Kokomo-Center Township Consolidated School Corporation are funded principally through the corporation's general fund. In FY 1992, revenues and expenditures of this fund were $32,367,019 and $33,740,737, respectively. Fund balances were $2,726,942, or 8.1 percent of operating expenditures for this year (Table 3.6-9). This is an increase over FY 1990 levels, when fund balances showed a deficit of $47,995.

Table 3.6-9. Kokomo-Center Township Consolidated School Corporation General Fund Revenues, Expenditures, and Fund Balances, FY 1990-1992 (current dollars)

	1990	1991	1992
Revenues			
Local Sources	12,199,810	19,534,024	17,103,634
State Sources	12,316,253	14,638,849	14,695,387
Federal Sources	562,954	524,079	569,998
Total	25,079,017	34,696,952	32,367,019
Expenditures[a]	30,138,039	32,599,867	33,740,737
Fund Balances[b]	- 47,995	8,164	2,726,942

Notes: (a) FY 1990-1992 annual reports do not disaggregate disbursements among principal corporation functions.
(b) Includes interfund transfers to and from funds other than general fund; thus fund balances will not total.
FY = fiscal year.

Source: Kokomo-Center Township Consolidated School Corporation, n.d.

Local revenue is the leading source of general fund revenues (52.8 percent of FY 1992 general fund revenues). State source revenue accounts for 45.4 percent of total FY 1992 revenues, while federal sources account for about 1.8 percent of general fund revenue. The corporation does not receive any P.L. 81-874 program revenues.

The disaggregation of expenditures among the principal functions of the corporation were unavailable in the annual reports received from the corporation. However, the proposed 1993 budget for the corporation shows that approximately 56.2 percent of the 1993 general fund budget is earmarked for direct instruction functions, 42.3 percent is earmarked for support services, and the remaining 1.5 percent is earmarked for community service functions and non-programmed charges (Kokomo-Center Township Consolidated School Corporation, 1992b).

Closure Conditions

Reduced site-related enrollment of 73 students will result in reduced general fund revenues of $251,193 by closure. State source revenues ($123,370) and local source revenue ($122,202) would be the principal revenue sources affected.

These losses could be partially offset by reductions in expenditures of $226,074. The net fiscal effect of closure would be a revenue shortfall of $25,119 annually. Reductions in service levels and/or increases in other revenue sources may be required to maintain a balanced fiscal position.

3.7 TRANSPORTATION

This section addresses preclosure and closure conditions of roadways, air transportation, and other modes of transportation. A more detailed discussion of transportation is presented in Section 3.2.3 of the *EIS for Disposal and Reuse of Grissom AFB, Indiana*. The ROI includes portions of Miami, Cass, and Howard counties with emphasis on the area surrounding Grissom AFB.

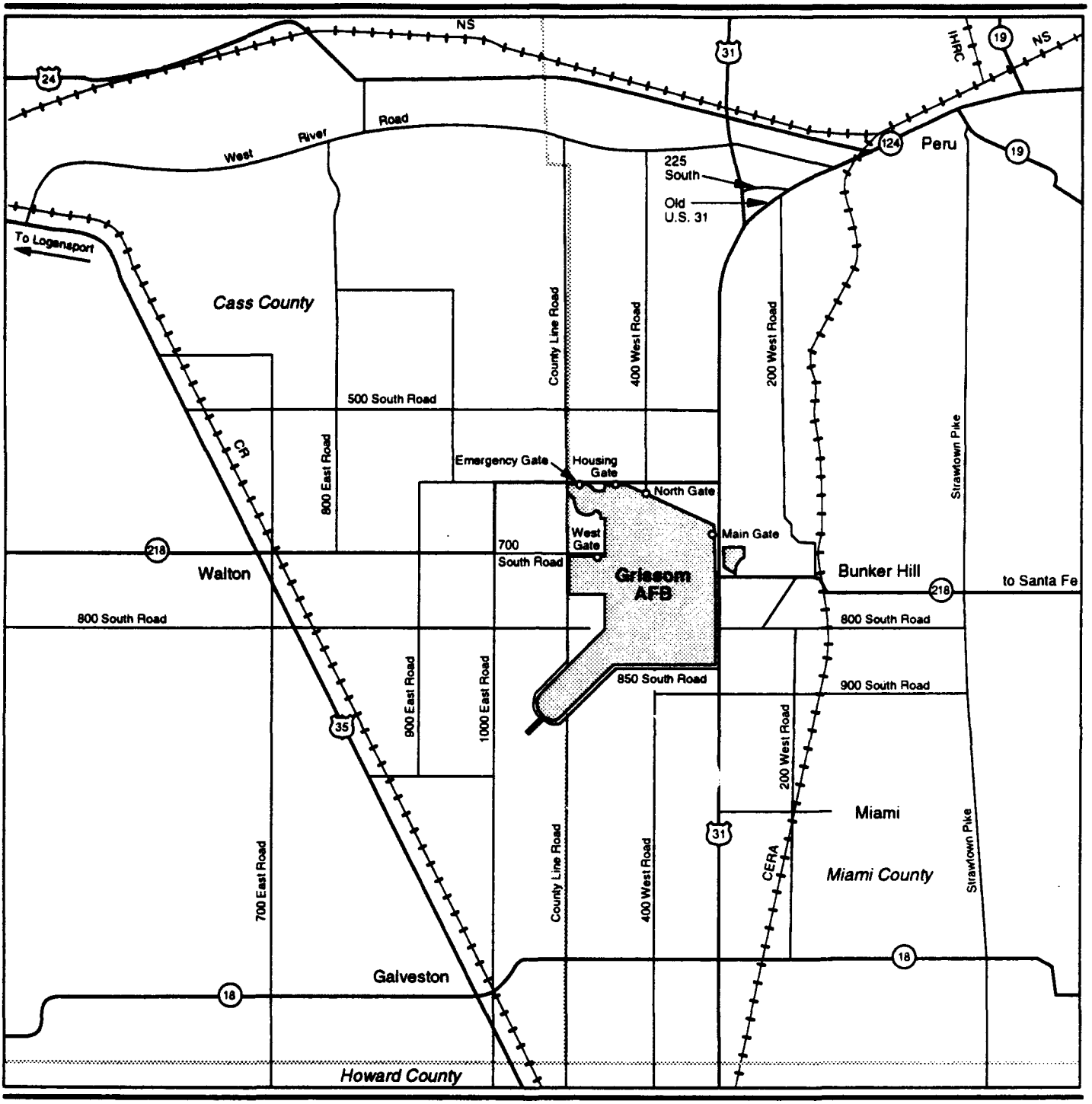
3.7.1 Roadways

Regional. Regional access to Grissom AFB is provided by U.S. 31, a major north-south 4-lane divided highway connecting Indianapolis and South Bend, Indiana. U.S. 31 bisects the city of Kokomo, is the eastern boundary of the base, and provides access to U.S. 24 north of the base (Figure 3.7-1). U.S. 24 is the main east-west highway connecting Fort Wayne and Logansport, Indiana. U.S. 35 is the north-south highway connecting Kokomo and Logansport. Access to Grissom AFB from U.S. 31 is by the Main Gate.

U.S. 31 has a capacity of 6,000 vehicles per hour (VPH) in the vicinity of Grissom AFB between Kokomo and Old U.S. 31 (business route to the city of Peru). The peak hour volume on U.S. 31 at the Grissom AFB main gate was 1,900 in 1990. On U.S. 31 north of Old U.S. 31 between the east and west U.S. 24 junction, the peak hour volume was 1,200 VPH in 1990. The peak hour volume on U.S. 31 at the southeast corner of the base was 1,850 VPH in 1990. Average daily traffic for regional and local roadways within the ROI was based on existing conditions, with truck traffic being 11 percent on regional roads and 4 percent on local roads.

Local. Local roads most important in providing access to the base are:

- Old U.S. 31 is a two-lane business route connecting U.S. 31 to Peru. The peak hour volume on Old U.S. 31 in the vicinity of U.S. 31 was 850 VPH in 1990.



EXPLANATION

- (31) U.S. Highway
- (18) State Highway
- County Line
- Railroad

CERA - Central Railroad Co. of Indianapolis
CR - Conrail
IHRC - Indiana Hi-Rail Corp.
NS - Norfolk Southern

Local Transportation System

0 .5 1 2 Miles

Figure 3.7-1

- SH 218 (west of U.S. 31) is a two-lane highway providing access to the base from Walton, Galveston, and Logansport. Three active gates on the base (North, Housing, and West Gates) are accessed from SH 218. SH 218 has a capacity of 2,000 VPH. The peak hour volume between the North Gate (400 West) and U.S. 31 was 300 VPH in 1990. On SH 218 between the West Gate and the Cass County line, the 1990 peak hour volume was 150 VPH.

- SH 218 (east of U.S. 31) is a two-lane rural highway, connecting U.S. 31 to SH 19 via Bunker Hill and Santa Fe. SH 218 has a capacity of 2,000 VPH and a 1990 peak hour volume of 250 VPH between U.S. 31 and Bunker Hill.

On-Base. All on-base roads are two-way, two-lane, paved, with curbs and gutters. Traffic control is achieved by yield and stop signs with priority given to major streets. The on-base roads leading to the gates and their afternoon peak-hour traffic counts are; Hoosier Boulevard, 600 VPH; Shooting Star Road, 250 VPH; and Starfire Road, 100 VPH.

Preclosure (1990) and closure (1994) conditions on key roads in the vicinity of the base are summarized in Table 3.7-1. The table shows hourly capacity, peak-hour traffic volumes, and the corresponding levels of service (LOSs) during peak hours.

At preclosure, U.S. 31 in the vicinity of the base operated at LOS A. Old U.S. 31, a major connector highway from U.S. 31 to U.S. 24 in Peru, operated at LOS C in the vicinity of U.S. 31 and at LOS D near Peru. All other key local road segments operated at LOS B or better. On-base roads operated at LOS C or better.

Closure Conditions

Upon closure of Grissom AFB, base traffic will consist of traffic generated by the 434th Wing and OL personnel. All on-base roads will operate at LOS B or better. During the peak hour the 434th Wing and OL are expected to generate 360 and 30 vehicles per hour, respectively. In addition, off-site traffic on key roads is expected to change with the cumulative effects of changes in population and area commuting and other travel patterns. During the period 1990-1994, an annual rate of increase of 1 percent is assumed for traffic growth on U.S. 31 and Old U.S. 31, and 2 percent on other rural roads (Schaffer, 1992). These rates of increase take into account the effects of closure.

As a result of the decrease in base-related traffic and changes in daily traffic associated with the cumulative effects of population changes and changes in daily traffic patterns, U.S. 31 in the vicinity of the base would continue to

Table 3.7-1. Peak-Hour Traffic Volumes and LOS on Key Roads

Road	Capacity[a] (VPH)	Preclosure (1990) Traffic[b] (PHV)	LOS	Closure (1994) Traffic[c] (PHV)	LOS
Regional					
U.S. 31					
SH 18 to 800 South	6,000	1,850	A	1,750	A
800 South to SH 218 (Jct. East)	6,000	1,850	A	1,800	A
SH 218 (Jct. East) to Main Gate	6,000	1,900	A	1,800	A
Main Gate to SH 218 (Jct. West)	6,000	1,900	A	1,850	A
SH 218 (Jct. West) to Jct. Old U.S. 31	6,000	2,000	A	1,900	A
Jct. Old U.S. 31 to U.S. 24 (Jct. West)	6,000	1,200	A	1,200	A
U.S. 24					
U.S. 31 (Jct. South) to U.S. 31 (Jct. North)	6,000	1,450	A	1,450	A
Local					
Old U.S. 31					
U.S. 31 to 225 South	2,400	850	C	750	C
225 South to West River Road	2,400	1,000	D	900	C
SH 218 (West Jct.)					
400 West to U.S. 31	2,000	300	B	200	A
County Line Road to 400 West	2,000	150	A	150	A
900 East to 1000 East	2,000	150	A	100	A
SH 218 (Jct. East)					
U.S. 31 to 200 West	2,000	250	B	200	A
On-base					
Hoosier Boulevard, at the Main Gate	1,600	600	C	250	B
Shooting Star Road at the North Gate	1,600	250	B	100	A
Starfire Road at the West Gate	1,600	100	A	50	A

Notes: (a) Capacity figures were derived based on Transportation Research Board, 1985. (VPH) = vehicles per hour.

(b) Figures for 1990 and closure are estimated from traffic volumes for 1987 obtained from Indiana Department of Transportation, 1991, Highway Traffic Statistics, assuming an annual growth rate of 1 percent on U.S. 31 and Old U.S. 31 and 2 percent on other local roads. Such percentages are suggested by Indiana Department of Transportation and in line with Indiana State population and income trend during 1970-1990. For on-base roads, 1992 traffic figures were assumed stable and therefore applicable to 1990. (PHV) = peak hour volume.

(c) These figures account for personnel drawdown and population outgration from Grissom AFB area upon closure. These figures also account for the remaining 434th Wing and the OL.

All traffic figures are rounded to the nearest 50 PHV.

LOS = Level of Service.

SH = State Highway.

Sources: Indiana Department of Transportation, 1991, 1992a; Transportation Research Board, 1985.

operate at LOS A, while both segments of Old U.S. 31 would operate at LOS C. Other key local road segments would continue to operate at LOS A.

3.7.2 Air Transportation

Recent Trends

Air transportation includes passenger travel by commercial airline and charter flights; business and recreational travel by private (general) aviation; and priority package and freight delivery by commercial and air carriers. There are no commercial service airports within the Grissom AFB ROI. Indianapolis International Airport, approximately 65 miles south of Grissom AFB, serves as a passenger hub for US Air, as well as a regional hub for Federal Express and the U.S. Postal Service. Indianapolis International Airport recorded over 2.8 million passenger boardings in calendar year 1991. During the same period, over 193,000 metric tons of cargo were loaded at this facility. Fort Wayne Municipal airport, approximately 65 miles northeast of Grissom AFB, recorded nearly 300,000 passenger boardings in 1991.

There are also numerous private-use facilities located within the ROI, but these facilities are primarily airstrips used for agricultural purposes and account for fewer than 100 annual aircraft operations.

Closure Conditions

The loss of air passenger traffic due to the closure of Grissom AFB will not be measurable.

3.7.3 Other Transportation Modes

Recent Trends

Direct rail service is not available at Grissom AFB. Three railroads provide freight service to the ROI: the Norfolk Southern, adjacent to U.S. 31; Central Railroad Company of Indianapolis, also parallel to U.S. 31; and Conrail, which connects Logansport and Kokomo (Beck, 1992; Indiana Department of Transportation, 1992b). The nearest Amtrak service is about 35 miles west of Grissom AFB in Lafayette, Indiana (Amtrak Midwest Rail Map, n.d.).

Closure Conditions

No noticeable change in regional rail service is expected to occur as a result of the closure of Grissom AFB (Beck, 1992).

3.8 UTILITIES

This section summarizes preclosure and closure conditions of utilities on Grissom AFB and in the ROI. The ROI for utilities consists of the local service areas of the purveyors that serve Grissom AFB and surrounding communities, including Peru, Bunker Hill, Walton, and Miami. A more detailed presentation of these conditions is available in the *EIS for Disposal and Reuse of Grissom AFB, Indiana*. Utility demand forecasts in the ROI are shown in Table 3.8-1 for years 1990 to closure (1994). Baseline utility demand through 1994 is based on estimated population changes in the ROI for utilities and the 1990 rates of per capita consumption.

Table 3.8-1. Estimated Preclosure and Baseline Utility Demand in the ROI, 1990 to Closure

Utility	1990	1991	1992	1993	Closure[a]
Water Consumption (MGD)					
Preclosure Forecast	2.97	2.97	3.04	3.04	3.04
Closure Baseline	2.97	2.97	3.04	2.64	2.08
Wastewater Treatment (MGD)					
Preclosure Forecast	2.54	2.73	2.69	2.69	2.69
Closure Baseline	2.54	2.73	2.69	2.21	1.72
Solid Waste Disposal (tons/day)					
Preclosure Forecast	32.0	32.1	35.1	35.1	35.1
Closure Baseline	32.0	32.1	35.1	28.7	24.1
Electrical Consumption (MWH/day)					
Preclosure Forecast	670	685	672	672	672
Closure Baseline	670	685	672	619	539
Natural Gas Consumption (thousand therms/day)					
Preclosure Forecast	37.9	39.0	39.8	39.8	39.8
Closure Baseline	37.9	39.0	39.8	34.8	29.6

Notes: These figures do not account for farm residences or commercial/industrial activities outside towns or city limits. The 1990, 1991, and 1992 figures were obtained from the base utility service billings and from each utility provider. Figures for Miami community were estimated. The 1993 and 1994 figures were estimated using the 1990 per capita rates and the projected population in the ROI, accounting for the drawdown of base personnel and their dependents.

(a) Represents estimated daily consumption at closure in September 1994.

MGD = million gallons per day.

MWH = megawatt-hours.

ROI = Region of Influence.

Sources: Butz, 1992; Reed, 1992; Rodgers, 1992; Shives, 1992; U.S. Air Force 1992a; Whybrew, 1992.

3.8.1 Water Supply

Recent Trends

Grissom AFB derives its water for domestic use from seven on-base wells with a total pumping capacity of 4.90 million gallons per day (MGD). The water supply is limited by the total capacity of the pumping and treatment system. Of the seven wells on base, four are considered primary and connected to the treatment plant for softening, chlorination and fluoridation. The three other wells are potable with limited capacity and are not connected to the water distribution system. The original treatment plant was constructed in 1942 but was completely upgraded in 1986. Its capacity is 2.20 MGD. The water main distribution system consists of 8- and 12-inch lines (U.S. Air Force, 1992b). Domestic water storage capacity at the base consists of two elevated tanks of 250,000 and 400,000 gallons, and one 450,000-gallon underground tank for a total of 1.10 million gallons.

The town of Bunker Hill draws its water from two wells with a pumping capacity of 0.77 MGD, and used 0.09 million gallons in 1990. The town has water storage capacity of 75,000 gallons in an elevated tank (Whybrew, 1992).

The city of Peru obtains domestic water from three wells located by the Wabash River. The Peru water treatment plant has a capacity of 6.00 MGD, but only 1.71 MGD was used on average in 1990. The city has storage capacity of 3.10 million gallons (Langer, 1992; Shives, 1992).

The town of Walton obtains domestic water from two wells with a pumping capacity of 0.50 MGD. In 1990 the town used 0.13 MGD. There is one elevated tank with 75,000-gallon capacity (Butz, 1992).

The community of Miami depends on wells owned by individual users for its water supply. Consumption is estimated at 0.05 MGD with total capacity of the wells unknown.

At preclosure, the water storage and distribution system requirements for domestic use and fire demand are met in the ROI. In 1990, the ROI (including the base) had a total demand for water of 2.97 MGD (see Table 3.8-1). The ROI had a pumping capacity of about 10.17 MGD, and a storage capacity of 4.35 million gallons.

Closure Conditions

Upon closure, Grissom AFB will require about 0.22 MGD to accommodate 434th Wing personnel and OL needs. This will be a 0.77 MGD reduction, or 78 percent, from the 0.99 MGD demand in 1990.

Upon base closure the total water consumption in the ROI would be about 2.08 MGD, reduced by 0.89 MGD from the 1990 level of 2.97 MGD, or a reduction of about 30 percent (see Table 3.8-1). The base's share of the 0.89 MGD ROI reduction would be about 87 percent.

3.8.2 Wastewater

Recent Trends

Grissom AFB has both domestic and industrial wastewater treatment plants. The domestic treatment plant was constructed in 1942, but was recently upgraded. This will provide secondary treatment that will meet treatment requirements, but will not change the rated capacity of the plant of about 1.20 MGD average flow and 0.30 MGD minimum flow. The effluent is discharged through a sanitary outfall to Pipe Creek. Domestic sewage at Grissom AFB is discharged to the base sanitary treatment plant at an average rate of 1.02 MGD (U.S. Air Force, 1992a).

In addition to Peru, the Peru waste water treatment plant serves portions of the Pipe Creek, Oakdale, and Bloomfield areas adjacent to the city boundaries. Built in 1938, the Peru plant had a major upgrade in 1960 and again in 1990. The average capacity is 4.90 MGD, but can accommodate peak flows of 6.00 MGD. In 1990, the city of Peru wastewater contribution to the treatment plant was 1.24 MGD (not including storm water, which in 1988 represented 52 percent of the total plant flow) (Binkerd, 1992; Ten Ech Engineering, 1988).

The town of Bunker Hill has a small sewage plant that can handle 0.24 MGD with a 1990 daily flow of about 0.12 MGD (Whybrew, 1992). The town of Walton has a plant with a capacity of 0.15 MGD, and a daily flow of about 0.10 MGD (Butz, 1992). The community of Miami and farm residences rely on individual on-site septic tanks for wastewater disposal. It is estimated that Miami produces 0.05 MGD of wastewater.

In 1990, the ROI (including Grissom AFB) produced an average of 2.54 MGD of sanitary wastewater (see Table 3.8-1). The combined treatment capacity of Grissom AFB, City of Peru, Bunker Hill, and Walton treatment plants is about 6.50 MGD.

Closure Conditions

At closure, the average daily on-base wastewater flow from 434th Wing personnel and OL activities would be 0.30 MGD, down 0.72 MGD from the 1.02 MGD flow of 1990, or about a 71 percent reduction. This is near the treatment plant's minimum operating level.

Upon base closure, the forecast wastewater production in the ROI would average 1.72 MGD, as compared to about 2.54 MGD in 1990. This is a decrease of 0.82 MGD, or 32 percent. The base's share of this reduction (0.72 MGD) would be about 88 percent.

3.8.3 Solid Waste

Recent Trends

Solid waste generated by on-base activities is hauled off base by an independent contractor. Through the beginning of 1993, base solid waste was disposed of at the T.H. Landfill in Denver, approximately 10 miles north of the base. This landfill is closed, and base solid waste is hauled to Byers Recycling and Disposal Facility in Logansport, and to the Wabash Landfill located in Wabash County. The city of Peru handles its own solid waste and uses Byers Recycling and Disposal Facility for disposal. Waste Management of Central Indiana handles the refuse produced by the rest of the ROI and uses Byers Recycling and Disposal Facility in Logansport (Buster, 1993; Hunt, 1992).

The ROI (including the base) generated an average of about 32.0 tons per day of solid waste in 1990. Before closure, the base contributed approximately 30 percent of the total waste material entering the T.H. Landfill daily. Table 3.8-1 shows tons/day of solid waste generated in the ROI in 1990 and annually through closure in 1994.

Closure Conditions

Upon base closure, Grissom AFB will generate 3.0 tons per day of waste associated with 434th Wing activities and OL maintenance of facilities and grounds. This compares to 9.5 tons per day in 1990, for a total reduction of 6.5 tons per day, or about 68 percent.

The amount of solid waste material created in the ROI in 1994 is estimated at an average of 24.1 tons per day. This is a 7.9 tons per day decrease, or approximately 25 percent of the 1990 amount of 32.0 tons. About 82 percent (6.5 tons) of the ROI reduction will be directly due to base closure.

3.8.4 Energy

Sources of energy relevant to this analysis include electricity and natural gas. Coal has been used as a supplement fuel for the base heating plant through spring 1993.

Electricity

Recent Trends

Grissom AFB purchases its electric power from PSI Energy. Power is allocated to the base through one substation consisting of three 2,500 kilovolt ampere transformers. The primary distribution system is an overhead 12,000-volt delta system that delivers power to the base proper and the housing area (U.S. Air Force, 1992b).

Peru Utilities provides electricity to the city of Peru (Shives, 1992). PSI Energy provides electricity to the rest of the ROI (Rodgers, 1992).

In 1990, Grissom AFB consumed an average of 136 megawatt hours (MWH) per day. In the ROI, the estimated daily consumption of electricity was 670 MWH (see Table 3.8-1). The base's share of the total ROI electric demand was about 20 percent.

Closure Conditions

Upon closure (1994), the electrical demands for Grissom AFB will decrease to a level of about 35 MWH per day for the 434th Wing and OL needs. This would be down 101 MWH per day from 1990 (a 74 percent reduction).

The ROI daily consumption (including the base) would amount at closure to about 539 MWH per day, as compared to 670 MWH per day in 1990. This represents a 131 MWH per day, or 20 percent, decrease. The 101 MWH per day decrease in base consumption represents about 77 percent of the total 131 MWH per day ROI reduction. This decrease associated with Grissom AFB closure would be very small when compared to the total electric energy sold to customers by PSI Energy (Rodgers, 1992).

Natural Gas

Recent Trends

Natural gas is supplied to Grissom AFB and the ROI by NIPSCO (Reed, 1992). Natural gas is used mainly for on-base space heating and hot water.

The on-base distribution system is supplied through two meters (U.S. Air Force, 1992b), one at the North Gate (supplying the base heating plant) and one about 5,000 feet west of the North Gate (supplying the base housing area). The system was constructed in 1975 and is considered adequate. Its capacity is 34.7 million therms per year but peak demand is only 20,000 therms per day (U.S. Air Force, 1992b).

The base proper has no natural gas distribution system. Instead, the base central heating plant operates at 60 percent natural gas or fuel oil with the balance supplied by coal. Full conversion to natural gas is anticipated prior to closure.

In 1990, the ROI used about 37,900 therms per day and the base used about 8,500 therms per day (see Table 3.8-1). Natural gas usage peaks in the winter months.

Closure Conditions

Upon closure, natural gas demand at Grissom AFB is estimated to be about 1,900 therms per day to accommodate the 434th Wing and OL needs. This would be a reduction of about 6,600 therms per day from 1990 demand of 8,500 (a 78 percent reduction).

Based on population changes in the area, natural gas demand within the ROI at base closure is estimated at 29,600 therms per day, as compared to the 37,900 therms per day in 1990. This represents a short-term decrease in natural gas demand of 8,300 therms per day in the ROI, or approximately 22 percent. Base closure would decrease natural gas consumption by about 6,600 therms per day, or about 80 percent of the total ROI reduction. The decrease associated with base closure would be very small when compared to the total amount of natural gas NIPSCO sells to its customers (Reed, 1992).

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4.0 SOCIOECONOMIC EFFECTS OF PROPOSED ACTION AND ALTERNATIVES

4.1 INTRODUCTION

This chapter discusses the potential socioeconomic effects associated with the Proposed Action and one alternative for reuse of Grissom AFB, as well as the No-Action Alternative. The purpose of this study is to identify and analyze the major socioeconomic issues related to each of the three possibilities for future activity at the base and compare the effects of these alternatives with one another.

To help identify potential socioeconomic effects of reuse of Grissom AFB, this study addresses three reasonable reuse alternatives. For the purpose of this analysis, the Air Force has adopted the redevelopment plans developed by the GRA as the Proposed Action. In addition, the Air Force has also analyzed the effects associated with other reasonable alternatives. These include the Military/Joint Use Aviation Alternative and a No-Action Alternative without reuse. Actual decisions on reuse of the property will be made by its recipients subsequent to conveyance.

Descriptions of the effects of the Proposed Action and reuse alternative are provided sequentially for each of seven major issue areas: economic activity, population, housing, public services, public finance, transportation, and utilities. The *EIS for Disposal and Reuse of Grissom AFB, Indiana*, provides more detailed descriptions of effects for transportation and utilities.

The description of effects of the No-Action Alternative is the same as the closure conditions described in Chapter 3. Closure baseline includes the continued operation of the 434th Wing and the presence of the OL. The No-Action Alternative represents the baseline conditions to which the reuse alternatives are compared.

Context of Analysis. This analysis addresses the timing of effects associated with each of the various alternative plans for future reuse of the base. The analysis covers a time period extending 20 years beyond the date of closure of Grissom AFB (September 30, 1994), and the results are presented for each of the alternatives for the years 1999 (5 years after closure), 2004 (10 years after closure), and 2014 (20 years after closure).

Of particular importance in this analysis are site-related and migratory effects. Site-related effects include all activities associated with the base area. These would include all direct and secondary employment and their resultant effects on population as a result of either reuse-related activities or activities associated with the 434th Wing and the OL.

Migratory effects are defined to be all of the effects associated with persons that move into the ROI solely as a result of reuse-related activities. The migratory effects are a component of the site-related effects. In addition to these migratory effects, the site-related effects include the reuse activities or caretaker activities that are filled by the resources within the ROI before closure. For example, the Proposed Action would generate a particular number of jobs, some of which would be filled by the local available labor pool and others which would be filled by persons moving into the ROI for the purpose of gaining employment related to the reuse activities.

Many socioeconomic effects are caused primarily by population in-migration. These effects include changes in housing demand, public service requirements, local government expenditures and revenues, traffic volumes, and utility consumption. This analysis addresses the implications of population in-migration for each of these key related indicators.

This analysis recognizes the potential for community reactions stemming from "announcement effects" of information regarding the base's closure or reuse. Such announcements may affect the community's perceptions and, thus, could have important local economic consequences.

An example of an announcement effect would be the in-migration of people anticipating employment under one of the reuse options. If it were announced later that the No-Action Alternative was chosen, many of these newcomers would leave the area seeking employment elsewhere. This announcement effect would thus include (a) a temporary increase in population in anticipation of future employment, and (b) a subsequent decline in population as people leave the area after the announcement. Bases with more than one closure announcement may not experience as severe an announcement effect.

Changes associated with announcement effects, while potentially important, are highly unpredictable and difficult to quantify. Such effects, therefore, were excluded from the quantitative analysis in this study, and are not displayed in any of the tabular or graphic data presented in this report.

The methods used to evaluate the effects of reuse of the site are consistent with those used to assess the effects of closure. These methods are described in Appendix B.

4.2 ECONOMIC ACTIVITY

Under the No-Action post-closure scenario, Grissom AFB would not be reused and the 434th Wing and OL activities at the site would contribute little economic stimulus to the ROI. In this situation, employment in the ROI is projected to increase from 100,261 at closure to 100,523 by the year 2014, which represents an annual average growth rate of approximately

0.01 percent (extrapolated from projections by the Indiana University School of Business, 1988).

Of the reuse alternatives evaluated for this study, the Proposed Action would generate the greatest economic effects.

4.2.1 Proposed Action

Direct Jobs. Employment associated with the Proposed Action would begin immediately upon its implementation. The number of direct jobs over the closure baseline would increase to 633 in 1999 and 6,991 in 2014 (Table 4.2-1). Most of these direct jobs would be associated with operations activities on the site, with 36 percent of direct jobs attributable to construction by 1999 and about 2.4 percent by 2014. Industrial and commercial development would create the greatest number of on-site jobs.

Secondary and Total Jobs. The Proposed Action would create additional off-site secondary jobs over the closure baseline in the ROI through the multiplier effects of worker spending and purchases of goods and services by new businesses on site. Secondary jobs are projected to number 300 in 1999 and 5,541 in 2014. This secondary employment brings total ROI jobs created by the Proposed Action to 933 in 1999 and 12,532 in 2014 (see Table 4.2-1).

Earnings. Total annual earnings generated by the Proposed Action over the closure baseline are projected to be $17,632,000 in 1999 and $241,723,000 in 2014 (see Table 4.2-1). Most of these earnings would be attributable to direct operations jobs, with earnings from this source estimated at $7,411,000 in 1999 and $160,732,000 in 2014. Secondary earnings would total $77,300,000 by 2014.

ROI Jobs with the Proposed Action. The total number of jobs in the ROI would increase from 100,261 at closure to 101,329 in 1999 and 113,055 in 2014 (see Table 4.2-1). The average annual rate of employment growth in the ROI during this 20-year period would be 0.6 percent with the Proposed Action, compared to approximately 0.01 percent under closure baseline conditions. The trend in ROI employment with the Proposed Action compared to the closure baseline and the other reuse alternative is shown in Figure 4.2-1.

In-Migrating Workers. About 32 percent of the total jobs created by the Proposed Action are expected to be filled by persons that would relocate to the ROI. This relocation is expected to begin for some types of jobs at the earliest stages of reuse. The total number of in-migrating workers is expected to be 305 in 1999 and 4,024 in 2014 (see Table 4.2-1). The remaining 68 percent of the reuse jobs would be filled by residents of the ROI.

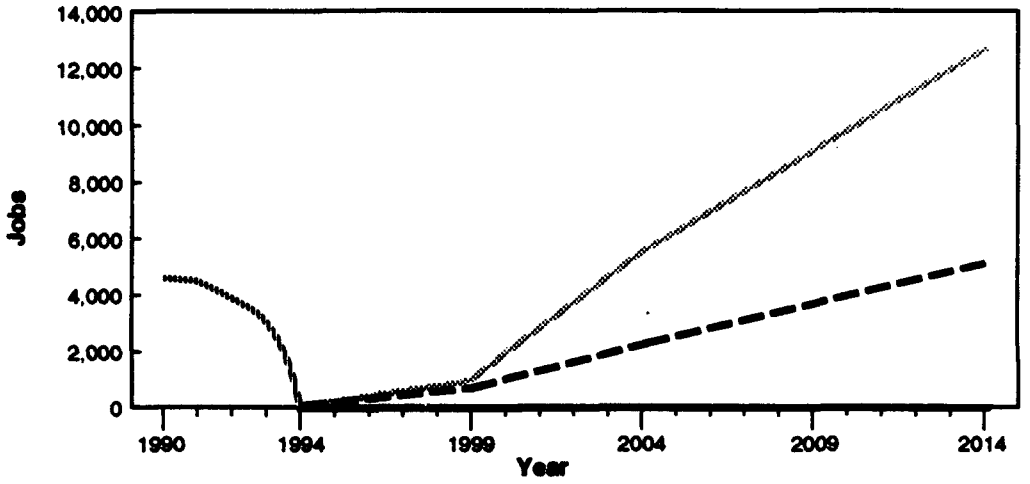
Table 4.2-1. ROI Employment and Earnings Projections: Proposed Action

	1999	2004	2014
Site-Related Employment and Earnings			
Reuse Effects			
Employment			
Direct	1,611	4,076	7,969
Construction	228	172	172
Operations	1,383	3,904	7,767
Secondary	611	2,555	5,852
Total	2,222	6,631	13,821
Earnings ($000)[a]			
Direct	39,949	97,775	192,050
Construction	4,911	3,691	3,691
Operations	35,038	94,084	188,359
Secondary	10,320	37,454	82,310
Total	50,269	135,229	274,360
No-Action Effects[b]			
Employment			
Direct	978	978	978
Secondary	311	311	311
Total	1,289	1,289	1,289
Earnings ($000)[a]			
Direct	27,627	27,627	27,627
Secondary	5,010	5,010	5,010
Total	32,637	32,637	32,637
Reuse Increase Over No-Action Effects			
Employment			
Direct	633	3,098	6,991
Construction	228	172	172
Operations	405	2,926	6,819
Secondary	300	2,244	5,541
Total	933	5,342	12,532
Earnings ($000)[a]			
Direct	12,322	70,148	164,423
Construction	4,911	3,691	3,691
Operations	7,411	66,457	160,732
Secondary	5,310	32,444	77,300
Total	17,632	102,592	241,723
ROI Employment			
With No-Action Alternative	100,396	100,602	100,523
With Proposed Action	101,329	105,944	113,055
In-Migrating Workers[c]			
Direct	274	1,522	3,469
Construction	46	34	34
Operations	228	1,488	3,435
Secondary	31	226	555
Total	305	1,748	4,024

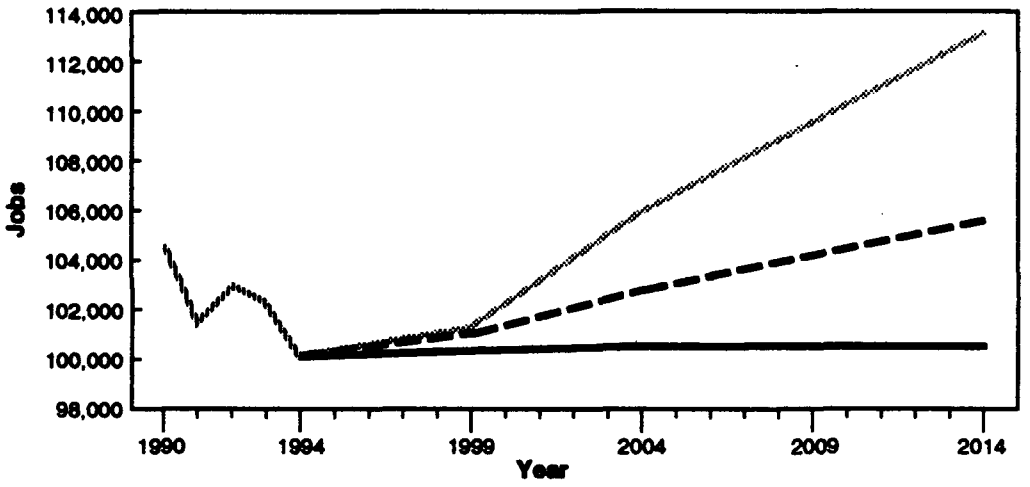
Notes: (a) Constant 1989 dollars.
(b) No-Action effects are the closure baseline projection, extended beyond closure, with the 434th Wing in a cantonment and the OL in caretaker status. Effects include both direct and secondary employment and earnings.
(c) In-migrating workers are holders of site-related jobs expected to live in the ROI with reuse but who would not live in the ROI without reuse. Refer to Appendix B (Methods) for migratory employment assumptions.
ROI = Region of Influence.

ALTERNATIVE	1994 (a)	1999	2004	2014
Proposed Action	1,289	933	5,342	12,532
Military/Joint Use Aviation	1,289	688	2,244	5,106

Reuse-Related Employment Effects (b)



Reuse-Related Employment Effects (b)



Total ROI Employment Including Reuse-Related Effects

EXPLANATION

- Preclosure
- Proposed Action
- Military/Joint Use Aviation Alternative
- No-Action Alternative

(a) The 1994 values represent total base-related employment under the closure baseline.
(b) Employment effects represent the change in employment relative to the No-Action Alternative.

Reuse-Related Employment Effects

Figure 4.2-1

4.2.2 Military/Joint Use Aviation Alternative

Direct Jobs. Employment associated with the Military/Joint Use Aviation Alternative would begin immediately upon its implementation. The number of direct jobs would increase to 454 in 1999 and 3,709 in 2014 (Table 4.2-2). Nearly all of these direct jobs would be associated with operations activities on the site, with about 15.8 percent of direct jobs attributable to construction by 1999, declining to 1.8 percent by 2014. Commercial and aviation support activities are projected to create the greatest number of jobs of any of the on-site activities.

Secondary and Total Jobs. Under the Military/Joint Use Aviation Alternative, the multiplier effects of worker spending and purchases of goods and services by new businesses on the site would create additional off-site secondary jobs in the ROI. The number of secondary jobs is projected to be 234 in 1999 and 1,397 in 2014. Combining direct and secondary jobs would increase the total number of jobs created by the Military/Joint Use Aviation Alternative to 688 in 1999 and 5,106 in 2014 (see Table 4.2-2).

Earnings. Total annual earnings generated by the Military/Joint Use Aviation Alternative are projected to be $13,866,000 in 1999 and $88,863,000 in 2014 (see Table 4.2-2). Most of these earnings would be attributable to direct operations jobs, with earnings from this source estimated at $8,462,000 in 1999 and $65,075,000 in 2014. Secondary earnings would represent about $22,361,000 by 2014.

ROI Jobs with the Military/Joint Use Aviation Alternative. The total number of jobs in the ROI would increase from 100,261 at closure to 101,084 in 1999 and 105,629 in 2014 (see Table 4.2-2). The average annual employment growth rate in the ROI would be about 0.3 percent under the Military/Joint Use Aviation Alternative, compared to approximately 0.01 percent under the closure baseline. The trend in ROI employment with the Military/Joint Use Aviation Alternative compared to the closure baseline and the other reuse alternatives is shown in Figure 4.2-1.

In-Migrating Workers. About 39 percent of the jobs created by the Military/Joint Use Aviation Alternative are expected to be filled by workers relocating into the ROI. Depending on specific skills needed and general economic conditions, other jobs would be filled by workers residing within the ROI. Relocation is expected to start for some types of jobs at the earliest stages of reuse. The total number of in-migrating workers is expected to reach 255 in 1999 and 2,001 in 2014 (see Table 4.2-2). The remaining 61 percent of the reuse jobs would be filled by residents of the ROI.

Table 4.2-2. ROI Employment and Earnings Projections: Military/Joint Use Aviation Alternative

	1999	2004	2014
Site-Related Employment and Earnings			
Reuse Effects			
Employment			
Direct	1,432	2,600	4,687
Construction	72	66	66
Operations	1,360	2,534	4,621
Secondary	545	933	1,708
Total	1,977	3,533	6,395
Earnings ($000)[a]			
Direct	37,643	56,973	94,129
Construction	1,554	1,427	1,427
Operations	36,089	55,546	92,702
Secondary	8,860	14,990	27,371
Total	46,503	71,963	121,500
No-Action Effects[b]			
Employment			
Direct	978	978	978
Secondary	311	311	311
Total	1,289	1,289	1,289
Earnings ($000)[a]			
Direct	27,627	27,627	27,627
Secondary	5,010	5,010	5,010
Total	32,637	32,637	32,637
Reuse Increase Over No-Action Effects			
Employment			
Direct	454	1,622	3,709
Construction	72	66	66
Operations	382	1,556	3,643
Secondary	234	622	1,397
Total	688	2,244	5,106
Earnings ($000)[a]			
Direct	10,016	29,346	66,502
Construction	1,554	1,427	1,427
Operations	8,462	27,919	65,075
Secondary	3,850	9,980	22,361
Total	13,866	39,326	88,863
ROI Employment			
With No-Action Alternative	100,396	100,602	100,523
With Military/Joint Use Aviation Alternative	101,084	102,846	105,629
In-Migrating Workers[c]			
Direct	230	816	1,860
Construction	14	13	13
Operations	216	803	1,847
Secondary	25	63	141
Total	255	879	2,001

Notes: (a) Constant 1989 dollars.
(b) No-Action effects are the closure baseline projection, extended beyond closure, with the 434th Wing in a cantonment and OL in caretaker status. Effects include both direct and secondary employment and earnings.
(c) In-migrating workers are holders of site-related jobs expected to live in the ROI with reuse but who would not live in the ROI without reuse. Refer to Appendix B (Methods) for migratory employment assumptions.

ROI = Region of Influence.

4.2.3 No-Action Alternative

Employment and earnings effects under the No-Action Alternative would be the same as those described in Section 3.2 as closure conditions and as briefly highlighted in the introductory paragraph of this section.

4.3 POPULATION

If no reuse of Grissom AFB occurs, total population in the ROI is anticipated to increase from 184,174 at closure to 184,990 in 2014. These figures are preclosure population projections made by the Indiana University School of Business, with the base-related population factored out. This represents an average annual growth of 0.02 percent. The Proposed Action has the greatest effects on population of any of the reuse alternatives evaluated in this study.

Population In-migration Assumptions. As described in Appendix B, workers are projected to relocate to the region, depending on the number and types of jobs created. Many of the employment opportunities created by the reuse alternatives would be filled by workers relocating to the ROI who would bring their dependents, creating ROI population in-migration. This in-migrating population also is expected to experience natural increase (births minus deaths). The balance of jobs would be filled by workers residing in the ROI due to the number of unemployed workers in the area.

Residential Distribution Assumptions. In-migrants to the job market are expected to locate within the ROI based on 1992 population and commuting patterns. Direct workers are expected to choose places of residence similar to those of the civilian workers at the base prior to closure. Secondary workers would also have similar residential preferences.

4.3.1 Proposed Action

Site-Related Population. Total site-related population includes both (a) those households where at least one member has a site-related job who would live in the ROI without the Proposed Action, and (b) those who would reside in the ROI due to the Proposed Action (the migratory population). The total site-related population is projected to increase to 6,594 in 1999 and to 47,344 in 2014 (Table 4.3-1). About 52 percent (24,400) would reside in Miami County by 2014, with 21 percent (10,140) residing in the city of Peru and 4 percent (1,668) in the town of Bunker Hill. Howard County would be home for 14,156 (30 percent) of the total site-related residents in 2014, 18 percent (8,405) of whom would live in Kokomo. Site-related population in Cass and Wabash counties would be 6,240 (13 percent) and 1,910 (4 percent), respectively.

Table 4.3-1 Site-Related Population: Proposed Action

	1999	2004	2014
Persons by Labor Category of Employee			
Direct	4,773	12,689	27,086
Construction	696	549	599
Operations	4,077	12,140	26,487
Secondary	1,821	8,090	20,258
Total	6,594	20,779	47,344
Persons by Location			
Miami County	3,636	10,897	24,400
Bunker Hill	253	749	1,668
Peru	1,513	4,530	10,140
Rest of County	1,870	5,618	12,592
Howard County	1,879	6,140	14,156
Kokomo	1,126	3,654	8,405
Rest of County	753	2,486	5,751
Cass County	818	2,698	6,240
Wabash County	163	757	1,910
ROI Total	6,496	20,492	46,706
Outside ROI	98	287	636
Total	6,594	20,779	47,344

Note: Site-related population represents all direct and secondary workers and their dependents residing in the region. These include persons who are projected to live in the ROI without reuse and consequently are a combination of migratory population change and baseline population.

ROI = Region of Influence.

Migratory Population Change. The migratory population changes expected to occur due to the Proposed Action are shown in Table 4.3-2 for the ROI. These figures represent persons living in the ROI who would not live there without reuse of the base. Migratory population changes caused by the Proposed Action are projected at 908 in 1999 and 13,729 in 2014. In 2014, 8,068 (about 59 percent of the ROI total) are expected to live in Miami County. It is further estimated that 3,363 (about 24 percent) would live in the city of Peru and 569 (about 4 percent) in the town of Bunker Hill. Another 3,828 in-migrants (about 28 percent of the ROI total) would move into Howard County by 2014, of whom 2,315 would move into Kokomo. In-migration to Cass and Wabash counties would be 1,649 and 184, respectively.

ROI Population. Population in the ROI would increase from 184,174 at closure to 185,404 in 1999 and 198,719 in 2014 (see Table 4.3-2). The average annual rate of population growth in the ROI during this 20-year period would be about 0.4 percent, compared to 0.02 percent for the

Table 4.3-2. Total Regional Population Effects - Counties and Selected Communities: Proposed Action

	1999	2004	2014
ROI Population Projections			
With No-Action Alternative			
Miami County	31,812	32,177	32,543
Bunker Hill	943	953	963
Peru	12,286	12,413	12,540
Rest of County	18,583	18,811	19,040
Howard County	79,739	79,807	79,047
Kokomo	44,318	44,356	43,934
Rest of County	35,421	35,451	35,113
Cass County	36,801	36,210	35,558
Wabash County	36,144	36,748	37,842
ROI Total	184,496	184,942	184,990
Migratory Population Changes[a]			
Reuse Effects			
Miami County	541	3,221	8,068
Bunker Hill	38	227	569
Peru	226	1,343	3,363
Rest of County	277	1,651	4,136
Howard County	250	1,519	3,828
Kokomo	152	919	2,315
Rest of County	98	600	1,513
Cass County	108	654	1,649
Wabash County	9	68	184
ROI Total	908	5,462	13,729
ROI Population Projections			
With Reuse			
Miami County	32,353	35,398	40,611
Bunker Hill	981	1,180	1,532
Peru	12,512	13,756	15,903
Rest of County	18,860	20,462	23,176
Howard County	79,989	81,326	82,875
Kokomo	44,470	45,275	46,249
Rest of County	35,519	36,051	36,626
Cass County	36,909	36,864	37,207
Wabash County	36,153	36,816	38,026
ROI Total	185,404	190,404	198,719

Note: (a) Migratory population change represents those site-related employees and dependents living in the region who would not live in the region without reuse. All other site-related employees and dependents would live in the region without reuse of the base.

ROI = Region of Influence.

closure baseline. The projected ROI population trend, compared to the closure baseline and the other reuse alternative, is presented in Figure 4.3-1.

4.3.2 Military/Joint Use Aviation Alternative

Site-Related Population. The total site-related population is projected to increase to 5,847 in 1999 and 21,507 in 2014 (Table 4.3-3). Nearly all of these persons would be associated with direct operations jobs and secondary employment. Approximately 55 percent (11,845) of these persons would reside in Miami County by 2014, with 4,931 (23 percent) residing in the city of Peru and 824 (4 percent) in the town of Bunker Hill. Howard County would have 6,134 (29 percent) site-related residents, with 3,678 (17 percent) of them living in Kokomo. Site-related population in Cass and Wabash counties would number 2,670 (12 percent) and 539 (3 percent), respectively.

Migratory Population Change. The migratory population changes expected to occur in the ROI are shown in Table 4.3-4. These figures represent persons living in the ROI who would not live there without reuse of the base. Migratory population changes projected to occur as a result of the Military/Joint Use Aviation Alternative are 760 in 1999 and 6,817 in 2014. It is projected that about 60 percent (4,112) of the ROI total would live in Miami County in 2014, with 25 percent (1,715) in the city of Peru and about 4 percent in the town of Bunker Hill (292). Howard County would experience in-migration of 1,861 persons (27 percent) of the ROI total, 1,131 of whom would move into Kokomo. In-migrants to Cass and Wabash counties would number 797 and 47, respectively.

ROI Population. Population in the ROI would increase from 184,174 at closure to 185,256 in 1999 and 191,807 in 2014 (see Table 4.3-4). The average annual growth rate for population in the ROI during this 20-year period would be 0.2 percent, compared with 0.02 percent under closure baseline conditions. The trend in ROI population with the Military/Joint Use Aviation Alternative, compared to the closure baseline and the other reuse alternative, is presented in Figure 4.3-1.

4.3.3 No-Action Alternative

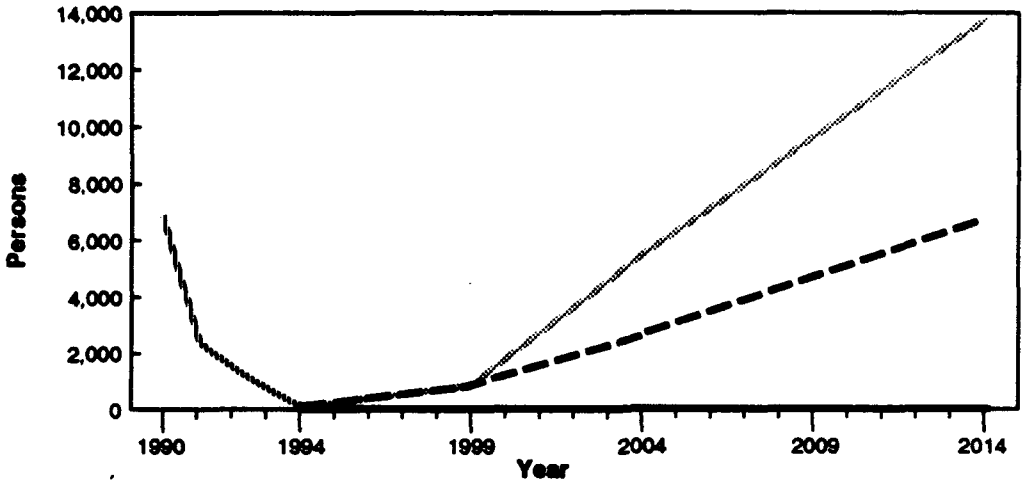
Population effects under the No-Action Alternative would be similar to those described in Section 3.3 as closure conditions and briefly highlighted in the introductory paragraph of this section.

4.4 HOUSING

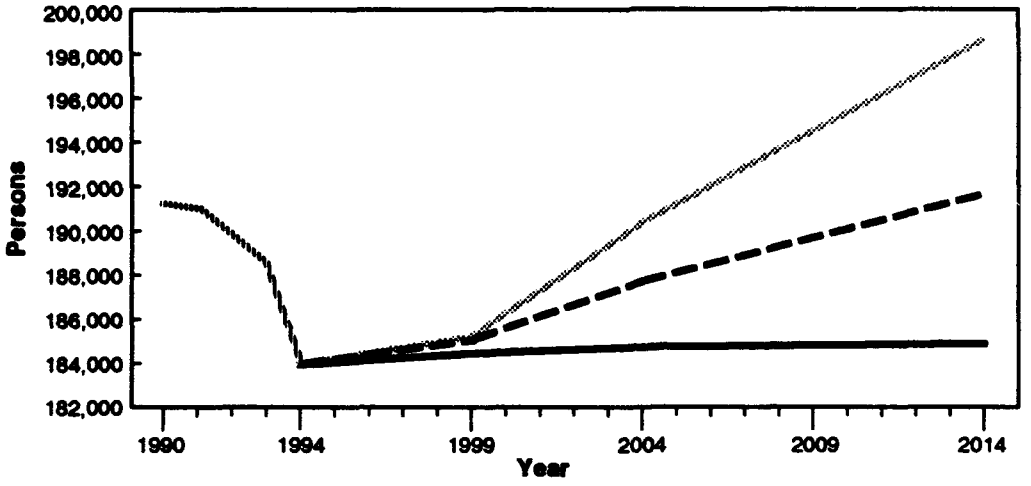
Total nonseasonal housing demand in the ROI is estimated to be 68,563 units at closure. Following the population trend, housing demand is projected to increase to 68,803 in 2014. This represents an average annual

ALTERNATIVE	1994 (a)	1999	2004	2014
Proposed Action	0	908	5,462	13,729
Military/Joint Use Aviation	0	760	2,745	6,817

Migratory-Related Population Effects (b)



Migratory-Related Population Effects (b)



Total ROI Population Including Migratory-Related Effects

EXPLANATION

- Preclosure
- Proposed Action
- Military/Joint Use Aviation Alternative
- No-Action Alternative

Migratory-Related Population Effects

(a) 1994 represents closure conditions.
(b) Migratory (Reuse)-related population effects are the persons that would move into the ROI solely as a result of reuse.

Figure 4.3-1

Table 4.3-3 Site-Related Population: Military/Joint Use Aviation Alternative

	1999	2004	2014
Persons by Labor Category of Employee			
Direct	4,428	8,005	15,718
Construction	221	211	230
Operations	4,007	7,794	15,488
Secondary	1,619	2,897	6,789
Total	5,847	10,902	21,507
Persons by Location			
Miami County	3,225	6,022	11,845
Bunker Hill	224	419	824
Peru	1,342	2,507	4,931
Rest of County	1,659	3,096	6,090
Howard County	1,665	3,102	6,134
Kokomo	999	1,861	3,678
Rest of County	666	1,241	2,456
Cass County	725	1,350	2,670
Wabash County	144	265	539
ROI Total	5,759	10,739	21,188
Outside ROI	88	163	319
Total	5,847	10,902	21,507

Note: Site-related population represents all direct and secondary workers and their dependents residing in the region. These include persons who are projected to live in the ROI without reuse and consequently are a combination of migratory population change and baseline population.

ROI = Region of Influence.

growth rate of 0.02 percent for this 20-year period, comparable to the projected growth in population. The greatest demand for housing in the ROI is expected to occur under the Proposed Action.

4.4.1 Proposed Action

Migratory-Related Housing Demand. Demand caused by the Proposed Action associated with population in-migration is projected to be 312 units in the ROI in 1999 and 4,718 units in 2014 (Table 4.4-1). Approximately 59 percent of demand in the year 2014 is projected to occur in Miami County (2,773), including about 25 percent in the city of Peru (1,156) and 4 percent in the town of Bunker Hill (196). Howard County would experience an increase in demand of 1,315 units (28 percent of ROI total), 796 of which would be in Kokomo. Cass and Wabash counties would experience increases in demand of 567 and 63 units, respectively.

Table 4.3-4. Total Regional Population Effects - Counties and Selected Communities: Military/Joint Use Aviation Alternative

	1999	2004	2014
ROI Population Projections			
With No-Action Alternative			
Miami County	31,812	32,177	32,543
Bunker Hill	943	953	963
Peru	12,286	12,413	12,540
Rest of County	18,583	18,811	19,040
Howard County	79,739	79,807	79,047
Kokomo	44,318	44,356	43,934
Rest of County	35,421	35,451	35,113
Cass County	36,801	36,210	35,558
Wabash County	36,144	36,748	37,842
ROI Total	184,496	184,942	184,990
Migratory Population Changes[a]			
Reuse Effects			
Miami County	454	1,655	4,112
Bunker Hill	32	117	292
Peru	189	690	1,715
Rest of County	233	848	2,105
Howard County	209	750	1,861
Kokomo	127	456	1,131
Rest of County	82	294	730
Cass County	90	321	797
Wabash County	7	19	47
ROI Total	760	2,745	6,817
ROI Population Projections			
With Reuse			
Miami County	32,266	33,832	36,655
Bunker Hill	975	1,070	1,255
Peru	12,475	13,103	14,255
Rest of County	18,816	19,659	21,145
Howard County	79,948	80,557	80,908
Kokomo	44,445	44,812	45,065
Rest of County	35,503	35,745	35,843
Cass County	36,891	36,531	36,355
Wabash County	36,151	36,767	37,889
ROI Total	185,256	187,687	191,807

Note: (a) Migratory population change represents those site-related employees and dependents living in the region who would not live in the region without reuse. All other site-related employees and dependents would live in the region without reuse of the base.

ROI = Region of Influence.

Table 4.4-1. Total Regional Housing Effects - Counties and Selected Communities (number of housing units): Proposed Action

	1999	2004	2014
ROI Housing Demand			
With No-Action Alternative			
Miami County	11,005	11,139	11,272
Bunker Hill	333	337	341
Peru	4,699	4,751	4,802
Rest of County	5,973	6,051	6,129
Howard County	30,734	30,760	30,464
Kokomo	18,001	18,017	17,843
Rest of County	12,733	12,743	12,621
Cass County	13,943	13,717	13,468
Wabash County	12,988	13,205	13,599
ROI Total	68,670	68,821	68,803
Migratory-Related Housing Demand[a]			
Reuse Demand			
Miami County	186	1,107	2,773
Bunker Hill	13	78	196
Peru	78	462	1,156
Rest of County	95	567	1,421
Howard County	86	522	1,315
Kokomo	52	316	796
Rest of County	34	206	519
Cass County	37	225	567
Wabash County	3	23	63
ROI Total	312	1,877	4,718
ROI Housing Demand			
With Reuse			
Miami County	11,191	12,246	14,045
Bunker Hill	346	415	537
Peru	4,777	5,213	5,958
Rest of County	6,068	6,618	7,550
Howard County	30,820	31,282	31,779
Kokomo	18,053	18,333	18,639
Rest of County	12,767	12,949	13,140
Cass County	13,980	13,942	14,035
Wabash County	12,991	13,228	13,662
ROI Total	68,982	70,698	73,521

Note: (a) Migratory-related housing demand is attributable to migratory ROI population changes. It reflects the change in housing demand, compared to baseline conditions, required to house the change in ROI population caused by reuse.

ROI = Region of Influence.

ROI Housing Demand. Total nonseasonal housing demand with the Proposed Action is projected to increase from 68,563 units at closure to 68,982 units in 1999 and 73,521 units in 2014 (see Table 4.4-1). The growth rate in housing demand averages more than 0.3 percent per year for this 20-year period, compared to 0.02 percent under closure baseline conditions.

4.4.2 Military/Joint Use Aviation Alternative

Migratory-Related Housing Demand. Demand attributable to the Military/Joint Use Aviation Alternative is projected to be 261 units in the ROI in 1999 and 2,343 units in 2014 (Table 4.4-2). About 60 percent of demand in the year 2014 is projected to occur in Miami County (1,413), including about 25 percent in the city of Peru (589) and 4 percent in Bunker Hill (100). Migratory demand in Howard County is projected to be about 640 units (27 percent of ROI demand), 389 of which would be in Kokomo. Cass and Wabash counties would experience increases in demand of 274 and 16 units, respectively.

ROI Housing Demand. Total nonseasonal demand is projected to rise from 68,563 units at closure to 68,931 units in 1999 and 71,146 units in 2014 (see Table 4.4-2). This projected increase in demand averages about 0.2 percent annually, compared to 0.02 percent under closure baseline conditions.

4.4.3 No-Action Alternative

Housing effects under the No-Action Alternative would be similar to those described in Section 3.4 as closure conditions and briefly highlighted in the introductory paragraph of this section.

4.5 PUBLIC SERVICES

Effects to key local public services are determined by the change in demand for service personnel and facilities arising from project implementation. The ability to accommodate increased demand or to respond to decreases in demand while maintaining accustomed levels of local public service is examined based on potential changes in demand for services.

Public services would be affected by ROI population in-migration. The number of in-migrating workers at the site, their accompanying dependents, and their settlement patterns would affect public service demand throughout the ROI. Preclosure per capita generated demand for public services for 1990 (i.e., student/teacher ratios and governmental/health care employee per 1,000 population ratios) were used as standards of service requirements. Potential project effects were determined by the addition of

Table 4.4-2. Total Regional Housing Effects - Counties and Selected Communities (number of housing units): Military/Joint Use Aviation Alternative

	1999	2004	2014
ROI Housing Demand			
With No-Action Alternative			
Miami County	11,005	11,139	11,272
Bunker Hill	333	337	341
Peru	4,699	4,751	4,802
Rest of County	5,973	6,051	6,129
Howard County	30,734	30,760	30,464
Kokomo	18,001	18,017	17,843
Rest of County	12,733	12,743	12,621
Cass County	13,943	13,717	13,468
Wabash County	12,988	13,205	13,599
ROI Total	68,670	68,821	68,803
Migratory-Related Housing Demand[a]			
Reuse Demand			
Miami County	156	569	1,413
Bunker Hill	11	40	100
Peru	65	237	589
Rest of County	80	292	724
Howard County	72	258	640
Kokomo	44	157	389
Rest of County	28	101	251
Cass County	31	110	274
Wabash County	2	7	16
ROI Total	261	944	2,343
ROI Housing Demand			
With Reuse			
Miami County	11,161	11,708	12,685
Bunker Hill	344	377	441
Peru	4,764	4,988	5,391
Rest of County	6,053	6,343	6,853
Howard County	30,806	31,018	31,104
Kokomo	18,045	18,174	18,232
Rest of County	12,761	12,844	12,872
Cass County	13,974	13,827	13,742
Wabash County	12,990	13,212	13,615
ROI Total	68,931	69,765	71,146

Note: (a) Migratory-related housing demand is attributable to migratory ROI population changes. It reflects the change in housing demand, compared to baseline conditions, required to house the change in ROI population caused by reuse.

ROI = Region of Influence.

public service employees (e.g., municipal employees, school teaching staff, police officers, fire fighters, health care providers) required to serve the resulting in-migrating population. Staffing to population service ratios are used to compare effects between the alternatives only, and are not intended to suggest future staffing requirements.

Based on the expected growth pattern associated with reuse, public service effects were projected for those jurisdictions that would be most affected by changes in service demand. These jurisdictions include the Miami and Howard county governments; the Peru and Kokomo city governments; the Bunker Hill town government; the Maconaquah School Corporation; the Peru Community School Corporation; and the Kokomo-Center Township Consolidated School Corporation.

Other direct effects would focus on increased service demand resulting from additional area and infrastructure arising from the shift from the federal administration of Grissom AFB to local jurisdiction over the project area. Following disposition of any parcel to the private and non-DOD public sectors, Miami County would become responsible for serving the demand for municipal services, police protection, fire protection, and health care over the base area. Also, local service providers would lose Air Force support in the form of aid agreements (e.g., for fire protection). The Proposed Action would have the greatest effect on local government services.

4.5.1 Local Government

Potential effects to local government structure and employment are examined for each alternative. The analysis considers project-related population in-migration and changes in service area infrastructure responsibility resulting under each alternative. Due to the magnitude of some effects of closure and reuse, level of service ratios may not adequately meet new service requirements. Changes in land area served and types of services to be provided were considered.

Area-Generated Employee Demand. The site is located primarily within the unincorporated portions of Miami County (2,543 acres), with a small portion (179 acres) within Cass County. Administration of that portion of the site outside of the cantonment within Miami County to be reused would become the responsibility of Miami County. Because Cass County's portion of the base will be retained by the federal government, no changes to public services would be required. Services, such as planning, public works, utilities, building code inspection and enforcement, recreation, and other social services may need to be expanded in Miami County for the additional area and infrastructure requirements. Increases in Miami County employment and facilities infrastructure may be required to serve this area, in addition to the calculated per capita increases regardless of changes in site-related population. Therefore, the total local government employee

demands would be the summation of per capita demands and area-generated demands.

With Grissom AFB closed and in caretaker status (the No-Action Alternative), OL activities and continued activities of the 434th Wing would not generate new demand for local government services. As a result, municipal staffing levels would not have to be increased for any of the local jurisdictions. Effects of each of the reuse alternatives are compared to these closure baseline conditions.

4.5.1.1 Proposed Action

Miami County. Based on per capita calculations, Miami County would experience the greatest increase in demand for government service in the region. Under the Proposed Action, Miami County would experience a population increase of 541 persons by 1999 and 8,068 persons by 2014, or approximately 59 percent of the total population change due to in-migration to the ROI in 2014. To maintain 1990 service levels of 4.3 FTE county employees per 1,000 persons living off base, increases in employment by the county for site-related activities would be 2 employees by 1999 and 35 by 2014 (Table 4.5-1). These increases in county employees by 2014 represent a 26 percent increase in staffing over closure baseline levels of 133 FTE employees.

Table 4.5-1. Government Employment Effects: Proposed Action

	1999	2004	2014
Miami County	2	14	35
Bunker Hill	0	2	6
Peru	2	13	33
Howard County	1	5	13
Kokomo	1	6	16
Total	6	40	103

Note: Effects (shown cumulatively) of migratory-related population changes on local government employment requirements, excluding teachers, police officers, and fire fighters, which are analyzed separately. Area-generated employee demand is not included in this table.

Based on the 1990 area-generated level of service ratio of 2.4 square miles per employee, Miami County could require an increase of up to one employee, in addition to the calculated per capita increases, to serve the additional service area created by the development of 1,146 acres for which the county would be responsible for providing government services (excluding acreage in the military cantonment, assumed to be the responsibility of the 434th Wing).

Town of Bunker Hill. Bunker Hill would experience a population increase of 38 persons by 1999 and 569 persons by 2014, or about 4 percent of the total increase in population due to in-migration to the ROI. This would not generate a per capita increase in public service employment requirements by 1999; however, 6 additional employees would be required by 2014 in order to maintain the 1990 level of service of 10.9 FTE town employees per 1,000 persons (see Table 4.5-1). This is a 60 percent increase in staffing over closure baseline levels of 10 employees in 2014.

City of Peru. In order to maintain the 1990 level of service of 9.9 FTE employees per 1,000 persons, municipal staffing would have to increase in Peru to accommodate an in-migrating population of 226 by 1999 and 3,363 by 2014. By 1999, the city would require 2 additional FTE employees and 33 by 2014 (see Table 4.5-1). By 2014, these additional employees would increase staffing by about 28 percent over the closure baseline level of 120 employees.

Howard County. By 1999, in-migration to Howard County would total 250 persons and 3,828 persons by 2014. Using a 1990 staffing level of 3.3 county FTE employees per 1,000 persons, 1 employee would have to be added under the Proposed Action in 1999 and 13 by 2014 to maintain the same service levels (see Table 4.5-1). By 2014, this alternative would increase county staff levels about 5 percent over the 261 employees remaining at closure.

City of Kokomo. To maintain the level of service at 6.9 FTE employees per 1,000 persons, 1 additional employee would be required in Kokomo by 1999 and 16 additional personnel by 2014, in order to meet increased service demands generated by an in-migrating population of 152 by 1999 and 2,315 by 2014 (see Table 4.5-1). Compared to a closure level of 308 employees, the Proposed Action would generate about a 5 percent increase in city staff levels by 2014.

4.5.1.2 Military/Joint Use Aviation Alternative

Miami County. Under the Military/Joint Use Aviation Alternative, Miami County would experience an increase in population due to in-migration of 454 persons by 1999 and 4,112 by 2014. With approximately 60 percent of the total population increase in-migrating to the ROI, Miami County would have the greatest increase in demand for government services. County employment related to activities at the project site would have to increase by 2 employees in 1999 and 18 in 2014 in order to maintain 1990 service levels of 4.3 county employees per 1,000 persons living off base (Table 4.5-2). Increases in staffing levels over closure baseline conditions (133 FTE employees) under this alternative would be about 14 percent by 2014.

Table 4.5-2. Government Employment Effects: Military/Joint Use Aviation Alternative

	1999	2004	2014
Miami County	2	7	18
Bunker Hill	0	1	3
Peru	2	7	17
Howard County	1	2	6
Kokomo	1	3	8
Total	6	20	52

Note: Effects (shown cumulatively) of migratory-related population changes on local government employment requirements, excluding teachers, police officers, and fire fighters, which are analyzed separately. Area generated employee demand is not included in this table.

Based on the 1990 service area per government employee levels (2.4 square miles per employee), the county could require up to one additional employee to serve the additional 1,146 serviceable acres, excluding the military cantonment assumed to be the responsibility of the 434th Wing.

Town of Bunker Hill. The Military/Joint Use Aviation Alternative would also increase public service demand in Bunker Hill based on population in-migration of 32 persons in 1999 and 292 persons in 2014. This would not require an increase in town staffing levels by 1999; however, 3 additional employees would be required by 2014 to maintain the 1990 municipal level of services of 10.9 FTE employees per 1,000 persons (see Table 4.5-2). By 2014, potential increases in town staff levels would represent a 30 percent increase over closure baseline staff levels of 10 FTE employees.

City of Peru. Municipal staffing for Peru would increase under this alternative to maintain a level of service of 9.9 FTE employees per 1,000 persons, and accommodate increased service demands from in-migration of 189 persons by 1999 and 1,715 persons by 2014. By 1999, the city would require 2 additional employees and a total of 17 by 2014 (see Table 4.5-2). These additional city employees would increase closure baseline staff levels of 120 employees by about 14 percent by 2014.

Howard County. By 1999, in-migration into Howard County would total 209 persons, increasing to 1,861 persons by 2014. Using a 1990 staffing level of 3.3 county FTE employees per 1,000 persons, 1 employee would have to be added under the Military/Joint Use Aviation Alternative in 1999, increasing to 6 in 2014 to maintain the same service levels (see Table 4.5-2). By 2014, this alternative would increase county staff levels by about 2 percent over the 261 employees projected at closure.

City of Kokomo. To maintain the level of service at 6.9 FTE employees per 1,000 persons, 1 additional employee would be required in Kokomo by

1999, and 8 additional personnel by 2014, in order to meet increased service demands generated by an in-migrating population of 127 by 1999 and 1,131 by 2014 (see Table 4.5-2). Compared to a closure level of 308 employees, the Military/Joint Use Aviation Alternative would generate about a 3 percent increase in city staff levels by 2014.

4.5.1.3 No-Action Alternative. Local government effects of the No-Action Alternative are the same as those described in Section 3.5.1 as closure conditions.

4.5.2 Public Education

Potential effects to education services and facilities are examined for each alternative. The analysis considers project-related population change and its effect on local enrollment and teaching staff strengths.

The school facilities in the Maconaquah School Corporation, Peru Community School Corporation, and Kokomo-Center Township School Corporation have sufficient capacity to accommodate the in-migrating students projected under the Proposed Action and the Military/Joint Use Aviation Alternative.

The 1990 student/teacher ratios of 17.9 for the Maconaquah School Corporation, 18.6 for the Peru Community School Corporation, and 18.7 for the Kokomo-Center Township Consolidated School Corporation, were maintained in the projections of teacher requirements for the Proposed Action and the Military/Joint Use Aviation Alternative.

4.5.2.1 Proposed Action

Maconaquah School Corporation. With implementation of the Proposed Action, student enrollment in the Maconaquah School Corporation is projected to increase by 32 in 1999 and 475 in 2014 (Table 4.5-3). Compared to the estimated enrollment level of 1,811 students at closure, the 475 students expected in the long term would increase corporation enrollment by 26.2 percent.

The number of teachers needed to serve the additional enrollment projected under the Proposed Action would be 2 by 1999 and 27 by 2014, assuming the 1990 student/teacher ratio is maintained. The addition of 27 teachers by 2014 represents a 26.7 percent increase over the estimated staffing level (101 teachers) at closure.

Peru Community School Corporation. Student enrollment in the Peru Community School Corporation is projected to increase by 40 in 1999 and 602 in 2014 (see Table 4.5-3). By 2014, enrollment will have increased

Table 4.5-3. Enrollment and Teaching Staff Effects: Proposed Action

School Corporations	1999	2004	2014
Student Enrollment Effects			
Maconaquah	32	190	475
Peru	40	240	602
Kokomo-Center	25	151	381
Total	97	581	1,458
Teaching Staff Effects			
Maconaquah	2	11	27
Peru	2	13	32
Kokomo-Center	1	8	20
Total	5	32	79

Note: Effects (shown cumulatively) of migratory-related population changes on student enrollments and teaching staff requirements.

due to the Proposed Action by 22.3 percent over the estimated enrollment level of 2,701 students at closure.

With the additional enrollment, teaching staff would increase in the Peru Community School Corporation by 2 in 1999 and 32 in 2014 in order to maintain the 1990 student/teacher ratio. The 32 teachers needed in the long term would increase the total number of teachers in the corporation by 22.1 percent over the closure level of 145 teachers.

Kokomo-Center Township Consolidated School Corporation. Student enrollment in the Kokomo-Center Township Consolidated School Corporation is projected to increase by 25 in 1999 and 381 in 2014, as a result of the population in-migration associated with the Proposed Action (see Table 4.5-3). By 2014, the corporation would experience a 5.0 percent increase in enrollment, compared to the estimated total enrollment of 7,649 in the corporation at closure.

The number of teachers required to serve the increased enrollment would be 1 by 1999 and 20 by 2014 in order to maintain the 1990 student/ teacher ratio. The addition of 20 teachers represents a 4.9 percent increase over the estimated closure level of 409 teachers.

Colleges and Universities

Indiana Vocational Technical College and Ball State University maintain educational centers at Grissom AFB, where a variety of courses are offered. It is assumed that these programs would be discontinued following base closure.

Under the Proposed Action, 23 acres of base property would be reused for educational purposes. The educational services are likely to be similar to the educational programs previously provided at the base.

4.5.2.2 Military/Joint Use Aviation Alternative

Maconaquah School Corporation. Student enrollment under the Military/Joint Use Aviation Alternative is projected to increase in the Maconaquah School Corporation by 27 in 1999 and 241 in 2014 (Table 4.5-4). The 241 students that could be added to corporation enrollment by 2014 represent a 13.3 percent increase over total enrollment at closure.

Table 4.5-4. Enrollment and Teaching Staff Effects: Military/Joint Use Aviation Alternative

School Corporations	1999	2004	2014
Student Enrollment Effects			
Maconaquah	27	97	241
Peru	34	123	304
Kokomo-Center	21	74	183
Total	82	294	728
Teaching Staff Effects			
Maconaquah	2	5	13
Peru	2	7	16
Kokomo-Center	1	4	10
Total	5	16	39

Note: Effects (shown cumulatively) of migratory-related population changes on student enrollments and teaching staff requirements.

Associated increases in teaching staff would be 2 by 1999 and 13 by 2014 in order to maintain the 1990 student/teacher ratio. The long-term addition of 13 teachers represents a 12.9 percent increase over the corporation's staffing level at closure.

Peru Community School Corporation. Student enrollment in the Peru Community School Corporation is projected to increase by 34 in 1999 and 304 in 2014 (see Table 4.5-4). By 2014, enrollment will have increased due to the Military/Joint Use Aviation Alternative by 11.3 percent over the estimated enrollment at closure.

Associated increases in teaching staff in the Peru Community School Corporation would be 2 by 1999 and 16 by 2014 in order to maintain the 1990 student/teacher ratio. The addition of 16 teachers represents an 11.0 percent increase over the closure staffing level.

Kokomo-Center Township Consolidated School Corporation. Student enrollment in the Kokomo-Center Township Consolidated School Corporation is projected to increase by 21 in 1999 and 183 in 2014 (see Table 4.5-4). By 2014, the corporation would experience a 2.4 percent increase in enrollment, compared to the estimated enrollment at closure.

Associated increases in teaching staff would be 1 by 1999 and 10 by 2014 in order to maintain the 1990 student/teacher ratio. Adding 10 teachers by 2014 would increase teaching staff by 2.4 percent over the closure baseline level.

Colleges and Universities

Under the Military/Joint Use Aviation Alternative, 24 acres of base property would be reused for educational purposes, which is similar to the Proposed Action's designation of 23 acres for educational use. Among the educational services to be provided under this alternative would be aviation training.

4.5.2.3 No-Action Alternative. Public education effects of the No-Action Alternative are the same as those described in Section 3.5.2 as closure conditions.

4.5.3 Police Protection

Under each alternative, potential effects to police protection services are examined based on reuse-related population, increase in land area covered, types of services to be provided, and infrastructure. Due to the magnitude of some effects of closure and reuse, level of service ratios may not adequately meet new service requirements.

Area-Generated Police Demands. The portion of the site to be reused is located in Miami County; therefore, police protection of the site would become the responsibility of the Miami County Sheriff's Department. Based on the 1990 level of service ratio of 48.6 square miles per sworn officer, the Miami County Sheriff's Department would not require any additional officers to serve the 1,146-acre site under the Proposed Action and the Military/Joint Use Aviation Alternative.

Under closure baseline conditions with the base in caretaker status (No-Action Alternative) and continued activities of the 434th Wing, the fenced site outside the military cantonment would be patrolled by an OL security contractor. Law enforcement support would be provided by the Miami County Sheriff's Department, requiring no additional officers.

4.5.3.1 Proposed Action

Miami County Sheriff's Department. The Miami County Sheriff's Department is projected to require no additional sworn officers by 1999. Two additional officers would be required by 2014 to meet the additional service demand created by population in-migration of 541 by 1999 and 8,068 by 2014 associated with the Proposed Action (Table 4.5-5). This increase would maintain the 1990 level of service of 0.2 officers per 1,000 persons. The total demand of 2 officers by 2014 would increase staff levels by about 29 percent over closure levels of 7 officers. No additional officers are projected to be needed to cover the increased service area created by the Proposed Action. Mutual aid agreements would have to be reviewed with regard to the site.

Table 4.5-5. Police Protection Effects: Proposed Action

	1999	2004	2014
Miami County Sheriff's Dept.	0	1	2
Bunker Hill Marshal's Office	0	0	1
Peru Police Dept.	0	3	7
Howard County Sheriff's Dept.	0	1	2
Kokomo Police Dept.	0	2	5
Total	0	7	17

Note: Effects (shown cumulatively) of migratory-related population changes on number of sworn officers required. Does not include area-generated demands.

Bunker Hill Marshal's Office. The Bunker Hill Marshal's office is a single-person operation providing all police protection services for the town. In-migration of 569 persons by 2014 under the Proposed Action would require one additional sworn officer to maintain the level of service ratio of 1.0 officer per 1,000 population.

Peru Police Department. Projected in-migrating population increases of 226 by 1999 and 3,363 by 2014 in the city of Peru would require the Peru Police Department to increase staff levels by 7 sworn officers (see Table 4.5-5). This would retain the 1990 service level of 2.0 sworn officers per 1,000 persons. This increase in police officers would represent about a 28 percent increase over the closure baseline level of 25 officers in 2014.

Howard County Sheriff's Department. Under the Proposed Action, the Howard County Sheriff's Department is projected to require no additional sworn officers to meet increased demand due to population in-migration until 2004, when 1 additional officer would be required. In-migration of 3,828 people by 2014 could require 2 additional officers to maintain the 1990 service level of 0.4 officers per 1,000 population in the county and would

increase staff levels by about 6 percent over the closure baseline level of 32 officers.

Kokomo Police Department. The city of Kokomo is projected to experience population in-migration of 152 by 1999 and 2,315 by 2014 associated with the development of the Proposed Action. Resulting increases in demand for police protection services would require the Kokomo Police Department to increase staffing by a total of 5 officers by 2014, or about 5 percent over the 103 sworn officers remaining after closure. This increase would maintain the 1990 level of service of 2.3 sworn officers per 1,000 persons in the city.

4.5.3.2 Military/Joint Use Aviation Alternative

Miami County Sheriff's Department. Under the Military/Joint Use Aviation Alternative, the Miami County Sheriff's Department is projected to require no additional sworn officers until 2014, when one officer would be required to meet the additional service demand created by population in-migration of 454 persons by 1999 and 4,112 by 2014 (Table 4.5-6). This increase would maintain the 1990 level of service of 0.2 officers per 1,000 persons. The total demand of one officer by 2014 would increase staff levels by about 14 percent over closure baseline levels of 7 officers. No additional officers are projected to be needed to cover the increased service area created by this alternative. Mutual aid agreements would have to be reviewed with regard to the site.

Table 4.5-6. Police Protection Effects: Military/Joint Use Aviation Alternative

	1999	2004	2014
Miami County Sheriff's Dept.	0	0	1
Bunker Hill Marshal's Office	0	0	0
Peru Police Dept.	0	1	3
Howard County Sheriff's Dept.	0	0	1
Kokomo Police Dept.	0	1	3
Total	0	2	8

Note: Effects (shown cumulatively) of migratory-related population changes on number of sworn officers required. Does not include area-generated demand.

Bunker Hill Marshal's Office. In-migration of 292 new residents by 2014 under the Military/Joint Use Aviation Alternative would not require an increase in staffing levels of the Bunker Hill Marshal's Office to maintain the level of service ratio of 1.0 officer per 1,000 population.

Peru Police Department. Based on projected in-migrating population increases of 189 by 1999 and 1,715 by 2014 in the city of Peru, the Peru

Police Department would require staffing levels to increase by 1 sworn officer by 2004 and 3 sworn officers by 2014 (see Table 4.5-6). This would retain the 1990 service levels of 2.0 sworn officers per 1,000 persons. This increase in police officers would represent about a 12 percent increase over closure baseline levels of 25 officers in 2014.

Howard County Sheriff's Department. Under the Military/Joint Use Aviation Alternative, the Howard County Sheriff's Department is projected to require 1 additional sworn officer by 2014 in order to meet increased demand due to population in-migration of 1,861. The increase of 1 officer by 2014 would maintain the 1990 service level of 0.4 officers per 1,000 population in the county and would increase staff levels by approximately 3 percent over the closure baseline level of 32 officers.

Kokomo Police Department. The city of Kokomo is projected to experience population in-migration of 127 by 1999 and 1,131 by 2014 associated with the development of the Military/Joint Use Aviation Alternative. Resulting increases in demand for police protection services would require the Kokomo Police Department to increase staffing by a total of 3 officers by 2014, or about 3 percent over the 103 sworn officers remaining after closure. This increase would maintain the 1990 level of service of 2.3 sworn officers per 1,000 persons in the city.

4.5.3.3 No-Action Alternative. Police protection effects of the No-Action Alternative are the same as those described in Section 3.5.3 as closure conditions, and as highlighted in the introduction to Section 4.5.3.

4.5.4 Fire Protection

Under each alternative, potential effects to fire protection services are examined. The analysis considers reuse-related population, service areas, and infrastructure responsibility changes.

With Grissom AFB closed and in caretaker status and continued activities of the 434th Wing (No-Action Alternative), an OL fire protection team would operate at the site with assistance of the 434th Wing using the base fire fighting equipment. It is assumed that mutual aid supplemental fire protection support would be provided by the Pipe Creek Township Volunteer Fire Department, and would not require any additional fire fighters.

Area-Generated Fire Fighters. If Grissom AFB property is conveyed under the Proposed Action or the Military/Joint Use Aviation Alternative, responsibility for fire protection of the site would be primarily assumed by the Pipe Creek Township Volunteer Fire Department. The department service area would increase by 1,146 acres under both the Proposed Action and Military/Joint Use Aviation Alternative. The Pipe Creek Township Volunteer Fire Department could require 1 additional fire fighter, in addition

to those required for increases in per capita demand for each of the reuse alternatives, based on the 1990 level of service ratio of 2.5 square miles per fire fighter.

It is assumed that existing mutual aid agreements between the base and the Pipe Creek Township Volunteer Fire Department would have to be reviewed with regard to the site itself.

4.5.4.1 Proposed Action

Peru Fire Department. On a per capita basis, the Peru Fire Department is projected to require 7 additional fire fighters by 2014 to meet the additional demand created by the Proposed Action. This retains the 1990 level of service of 2.2 fire fighters per 1,000 persons (Table 4.5-7). These additional 7 fire fighters would increase the number of fire fighters by about 24 percent over closure baseline levels of 29 fire fighters by 2014.

Table 4.5-7. Fire Protection Effects: Proposed Action

	1999	2004	2014
Peru Fire Dept.	0	3	7
Pipe Creek Township Fire Dept.	0	2	5
Kokomo Fire Dept.	0	2	5
Total	0	7	17

Note: Effects (shown cumulatively) of migratory-related population changes on number of fire fighters required. Does not include area-generated demand.

Pipe Creek Township Volunteer Fire Department. Under the Proposed Action, the Pipe Creek Township Volunteer Fire Department is projected to require 5 additional fire fighters by 2014 to meet increased demand while maintaining the department's 1990 level of service of 4.1 fire fighters per 1,000 persons. These additional fire fighters would represent an increase of 25 percent over closure baseline levels of 20 fire fighters. In addition, 1 fire fighter could be required to cover the increased service area created by the Proposed Action.

Kokomo Fire Department. The city of Kokomo Fire Department would require 5 additional fire fighters by 2014 in order to meet increased demand for fire protection services under the Proposed Action. This increase would maintain the 1990 level of service of 2.2 fire fighters per 1,000 persons. The 5 additional fire fighters by 2014 would increase staff levels by about 5 percent over the 110 fire fighters remaining after closure.

4.5.4.2 Military/Joint Use Aviation Alternative

Peru Fire Department. Under the Military/Joint Use Aviation Alternative, the Peru Fire Department is projected to require 4 additional fire fighters by 2014 (Table 4.5-8) to maintain the 1990 level of service of 2.2 fire fighters per 1,000 persons. In comparison to the closure level of 29 fire fighters, this alternative would increase the number of fire fighters by about 14 percent by 2014.

Table 4.5-8. Fire Protection Effects: Military/Joint Use Aviation Alternative

	1999	2004	2014
Peru Fire Dept.	0	2	4
Pipe Creek Township Fire Dept.	0	1	2
Kokomo Fire Dept.	0	1	3
Total	0	4	9

Note: Effects (shown cumulatively) of migratory-related population changes on number of fire fighters required. Does not include area-generated demand.

Pipe Creek Township Volunteer Fire Department. Under the Military/Joint Use Aviation Alternative, the Pipe Creek Township Volunteer Fire Department is projected to need 2 additional fire fighters by 2014 to serve the increased demand created by this alternative while maintaining the department's 1990 level of service of 4.1 fire fighters per 1,000 persons. These additional fire fighters would represent an increase of 10 percent over closure baseline levels of 20 fire fighters. One fire fighter could be required in addition to the per capita-related demand, to cover the increased service area created by the Military/Joint Use Aviation Alternative.

Kokomo Fire Department. The Kokomo Fire Department would require 3 fire fighters by 2014 in order to meet increased demand for fire protection services under the Military/Joint Use Aviation Alternative. This increase would maintain the 1990 level of service of 2.5 fire fighters per 1,000 persons. The 3 additional fire fighters by 2014 would increase staff levels by about 3 percent over the 110 fire fighters remaining after closure.

4.5.4.3 No-Action Alternative. Fire protection effects of the No-Action Alternative would be those described in Section 3.5.4 as closure conditions, and as highlighted in the introduction to Section 4.5.4.

4.5.5 Health Care

Following closure, the Grissom AFB clinic would be closed and the Air Force would no longer provide medical services at this site to retired military personnel and their dependents or to dependents of deceased military personnel. Because the nearest DOD installation with a medical facility is

approximately 65 miles away (Hawley Army Community Hospital in Indianapolis), the region's 2,323 military retirees and their dependents would likely rely on the five acute care hospitals and the various medical personnel in Miami, Howard, Cass, and Wabash counties for health care services. Veterans residing in the ROI would have access to the VA hospital in Marion, Indiana (30 miles to the east) for benefit services.

Grissom AFB has already initiated health care arrangements for retirees and dependents following closure. Patient needs were matched with local civilian resources, and retirees were sent a list of the appropriate primary care physicians who participate in the CHAMPUS program in their area. These are the closure conditions to which each of the reuse alternatives is compared. No reuse of on-base medical facilities is planned under the Proposed Action or the Military/Joint Use Aviation Alternative.

4.5.5.1 Proposed Action. Through the CHAMPUS program, military retirees and their dependents would have access to the health care services and medical facilities available in the community. The community health care services at closure could sufficiently meet the health care needs of retirees and dependents as well as the in-migrating population associated with the Proposed Action.

4.5.5.2 Military/Joint Use Aviation Alternative. Implementation of the Military/Joint Use Aviation Alternative would have the same health care effects as the Proposed Action.

4.5.5.3 No-Action Alternative. Health care effects of the No-Action Alternative would be those described in Section 3.5.5 as closure conditions, and as highlighted in the introduction to Section 4.5.5.

4.6 PUBLIC FINANCE

Fiscal effects to potentially affected jurisdictions are presented in this section. The results represent the net effects of reuse after accounting for the out-migration of the direct and secondary military and civilian jobs associated with phasing out the Grissom AFB mission.

Assumptions. Conversion of portions of the base property to private ownership would directly affect property tax revenues in the jurisdictions within which the portions to be converted to private ownership are located (i.e., Miami County and the Maconaquah School Corporation). Indirect property tax effects may be experienced in other jurisdictions due to the effects on the local tax base of population in-migration over and above the expected population out-migration due to closure and these effects are noted.

The effects of Section 3 transition entitlement funding on affected school districts have not been included in this analysis. The action of P.L. 81-874 provides for continued funding of federal impact aid to a local school district after the district becomes ineligible under general program guidelines. This continued funding, subject to congressional appropriation, would be in decreasing amounts for a period of three years, lessening the effects of closure on the school district.

The disposal and reuse process is explained in Chapter 1 of the *EIS for Disposal and Reuse of Grissom AFB, Indiana*. Key assumptions regarding jurisdictional control of base property under each reuse alternative (the portions of the base which are proposed for private ownership and the portions which are proposed for public ownership) are presented at the beginning of each of these sections. For the portions of the base proposed for public ownership and which are not proposed to be transferred as a public conveyance, several methods for financing the purchase of this property (as well as the financing of any infrastructure improvements which may be necessary for property transferred as a public conveyance or purchased outright by a public agency) are available. One method could be the declaration of the base as a redevelopment area. Purchase of existing improvements and development of additional improvements, as required, could be financed by the issuance of bonds. These bonds would be repaid by the expected incremental increase in taxes on privately owned property from the expected rise in valuations due to the improvements made by the redevelopment agency in the area.

For purposes of this analysis, financing for the purchase of property and for the development of improvements, as required, is assumed to be direct grants-in-aid from existing state and federal grant programs, revenue bonds, existing reserves, and/or other in-place aid programs.

4.6.1 Proposed Action

Key assumptions regarding future jurisdictional control of base property under this alternative, which influence the fiscal assessments, are presented below:

- The approximately 629 acres designated for industrial use and the 307 acres designated for commercial use would be sold to private interests and thus be subject to local property taxes.

- The 23 acres designated for institutional (educational) use are assumed to be sold to private interests and thus would be subject to local property taxes.

- The 25 acres designated for public/recreation uses and the 162 acres designated as vacant land would remain in public ownership and would not be subject to local property taxes.

- The 1,576 acres designated for military uses would remain as federal property and would not be subject to local property taxes.

4.6.1.1 Miami County. Fiscal effects of the Proposed Action on Miami County indicate an improvement over the post-closure scenario through FY 2014 (Figure 4.6-1).

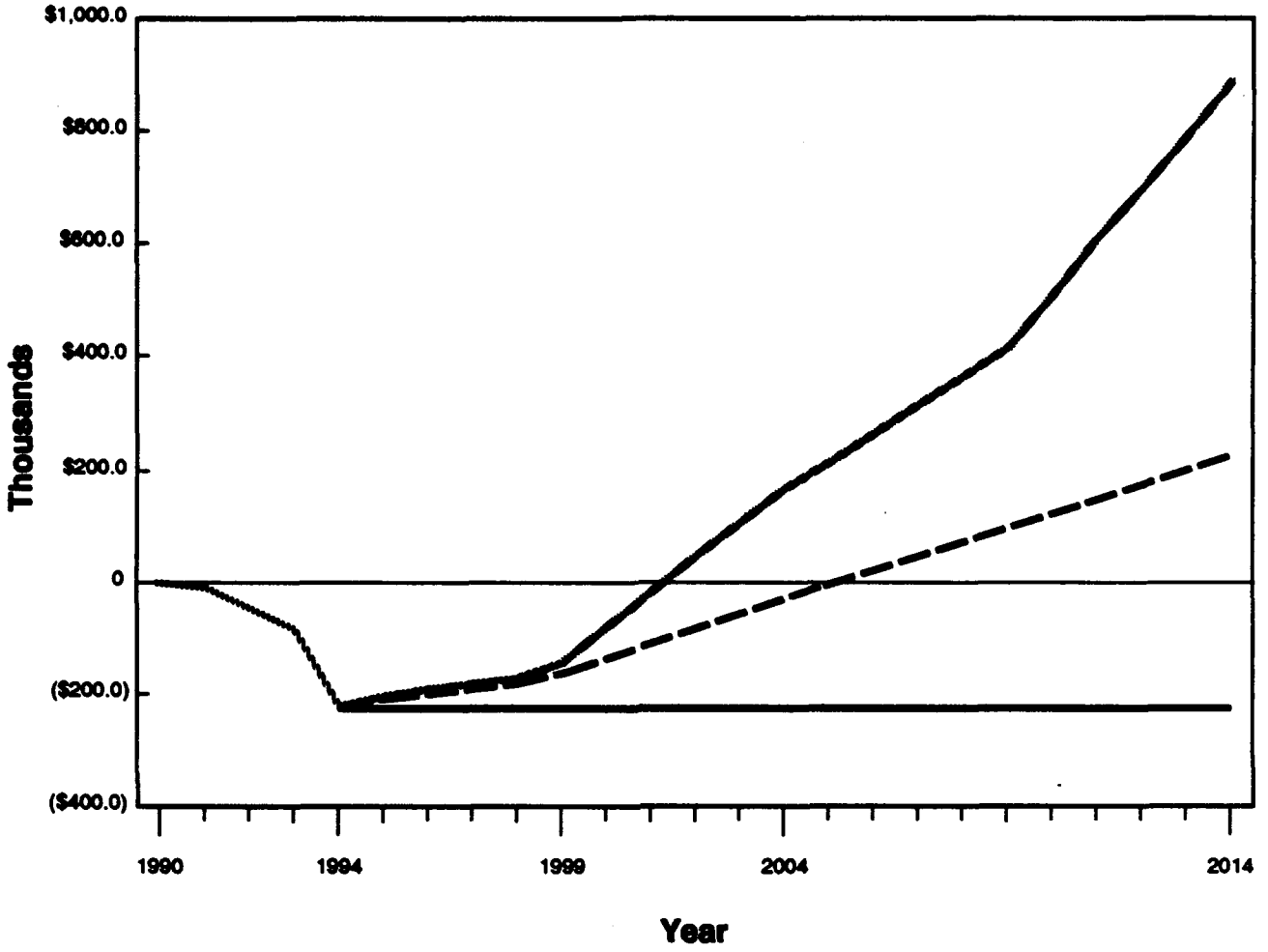
Revenues. Increased revenues to the general and special revenue funds would come from several sources. Property taxes would increase from conversion of a portion of the base to private use and population in-migration under this alternative is greater than the projected out-migration due to closure. Revenues from charges for services, other tax revenue, and intergovernmental revenue would increase as direct and secondary jobs attract in-migrants to the area. Increased general and special revenue fund revenues are projected to be $130,785 in FY 1999 and $1,904,525 by FY 2014.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in county residents are estimated to require $53,234 in increased expenditures in FY 1999 and $793,891 by FY 2014. Projected positive net fiscal effects would be $77,551 by FY 1999 and $1,110,634 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $217,123 (see Section 3.6) in the early years of reuse. From closure through FY 2001, the county would be faced with gradually declining deficits. These deficits may require some response by the county through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources to maintain a balanced fiscal position before FY 2002. By FY 2002, the positive fiscal effect of this alternative would offset projected deficits due to base closure.

4.6.1.2 Town of Bunker Hill. Fiscal effects of the Proposed Action on the town of Bunker Hill indicate an improvement over the post-closure scenario through FY 2014 (Figure 4.6-2).

Revenues. Increased general and special revenue fund revenues, principally from increased property taxes (due to projected population in-migration under this alternative greater than the out-migration projected for closure), fines and forfeits, and other taxes are projected to be $4,389 by FY 1999 and $110,102 by FY 2014.

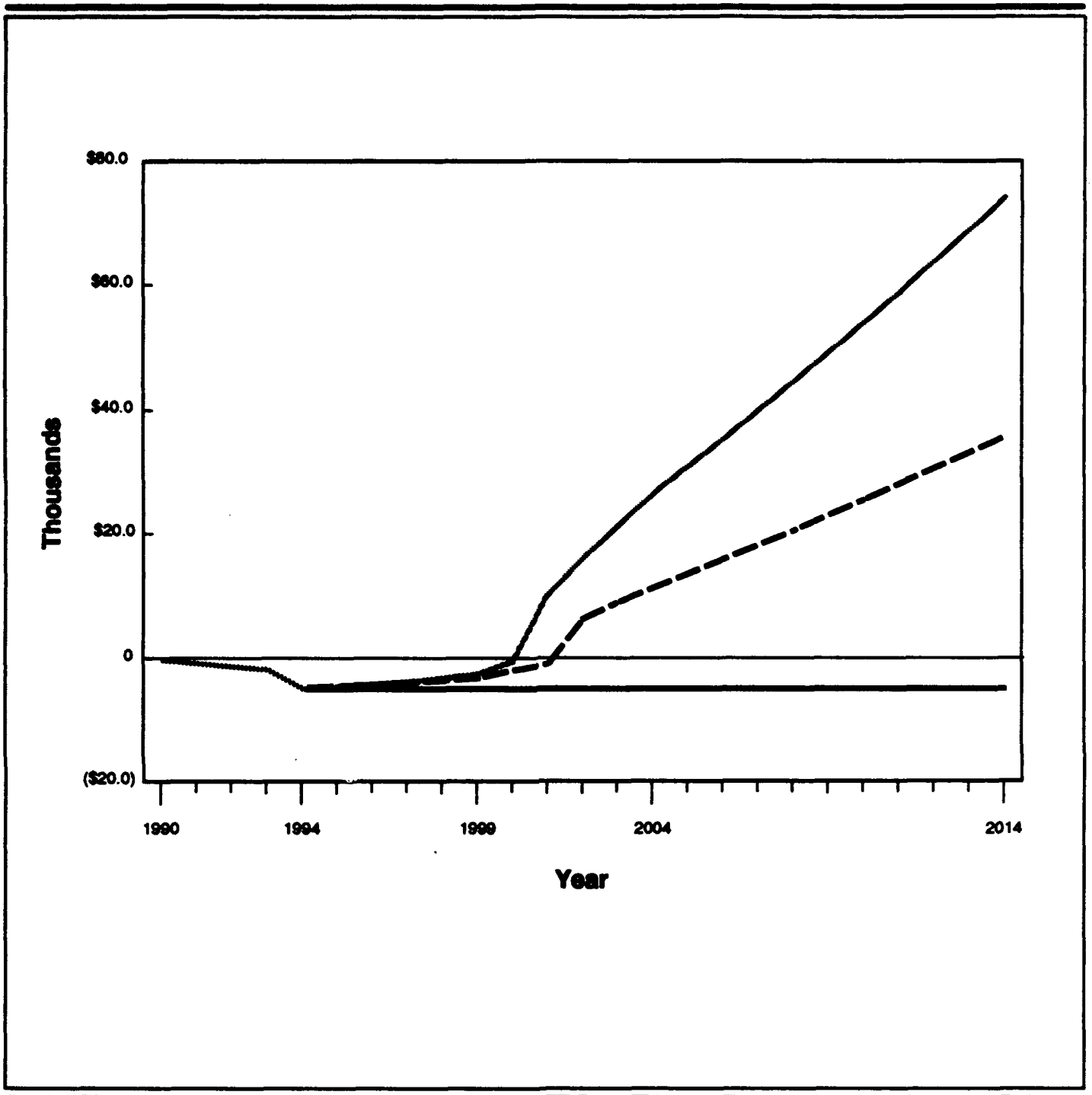


EXPLANATION

- Preclosure
- Proposed Action
- Military/Joint Use Aviation Alternative
- No-Action/Post-Closure

Miami County Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-1



EXPLANATION

- Preclosure
- Proposed Action
- Military/Joint Use Aviation Alternative
- No-Action/Post-Closure

Town of Bunker Hill Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-2

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in town residents are estimated to require $2,048 in increased expenditures by FY 1999 and $30,669 by FY 2014. Projected net positive fiscal effects would be $2,341 in FY 1999 and $79,433 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $4,928 (see Section 3.6) in the early years of reuse. From closure through FY 2000, the town would be faced with gradually declining deficits. These shortfalls may require some response by the town through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources to maintain a balanced fiscal position before 2001. By FY 2001, the positive fiscal effects of this alternative would offset projected deficits due to base closure.

4.6.1.3 City of Peru. Fiscal effects of the Proposed Action on the city of Peru indicate an improvement over the post-closure scenario through FY 2014 (Figure 4.6-3).

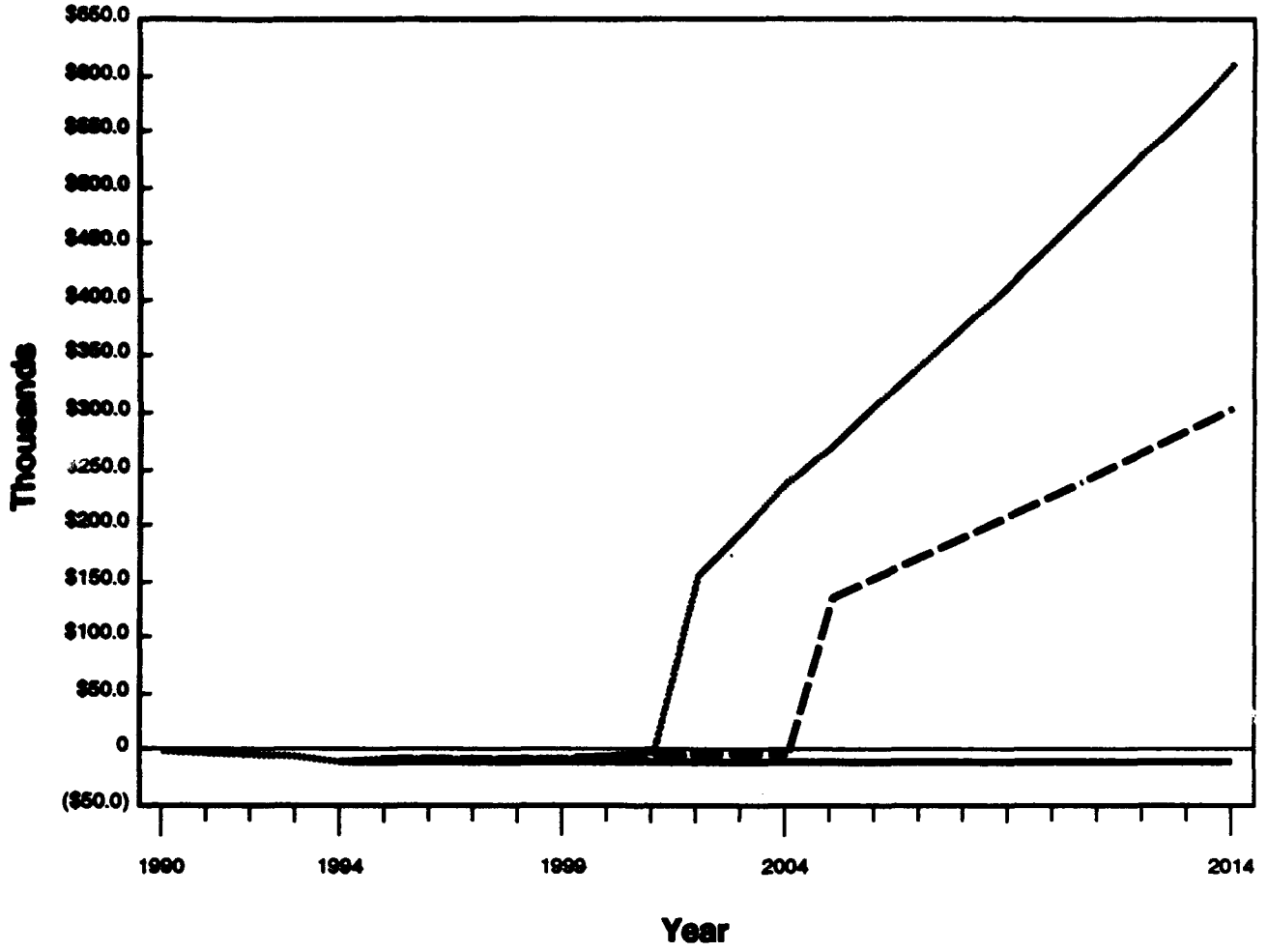
Revenues. Increased general and special revenue fund revenues, principally from increased property taxes (due to projected population in-migration under this alternative greater than the out-migration projected for closure) and intergovernmental revenue, are projected to be $29,380 by FY 1999 and $1,018,989 by FY 2014.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $27,007 in increased expenditures in FY 1999 and $401,879 by FY 2014. Projected positive net fiscal effects would be $2,373 in FY 1999 and $617,110 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $7,560 (see Section 3.6) in the early years of reuse. From closure to FY 2001, the city would be faced with gradually declining deficits. These shortfalls may require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, or development of new revenue sources to maintain a balanced fiscal position before 2002. By FY 2002, the positive fiscal effects of this alternative would offset projected deficits due to base closure.

4.6.1.4 Howard County. Fiscal effects of the Proposed Action on Howard County indicate an improvement over the post-closure scenario through FY 2014 (Figure 4.6-4).

Revenues. Increased general and special revenue fund revenues, principally from increased property taxes (due to projected population in-migration under this alternative greater than the out-migration projected for closure)

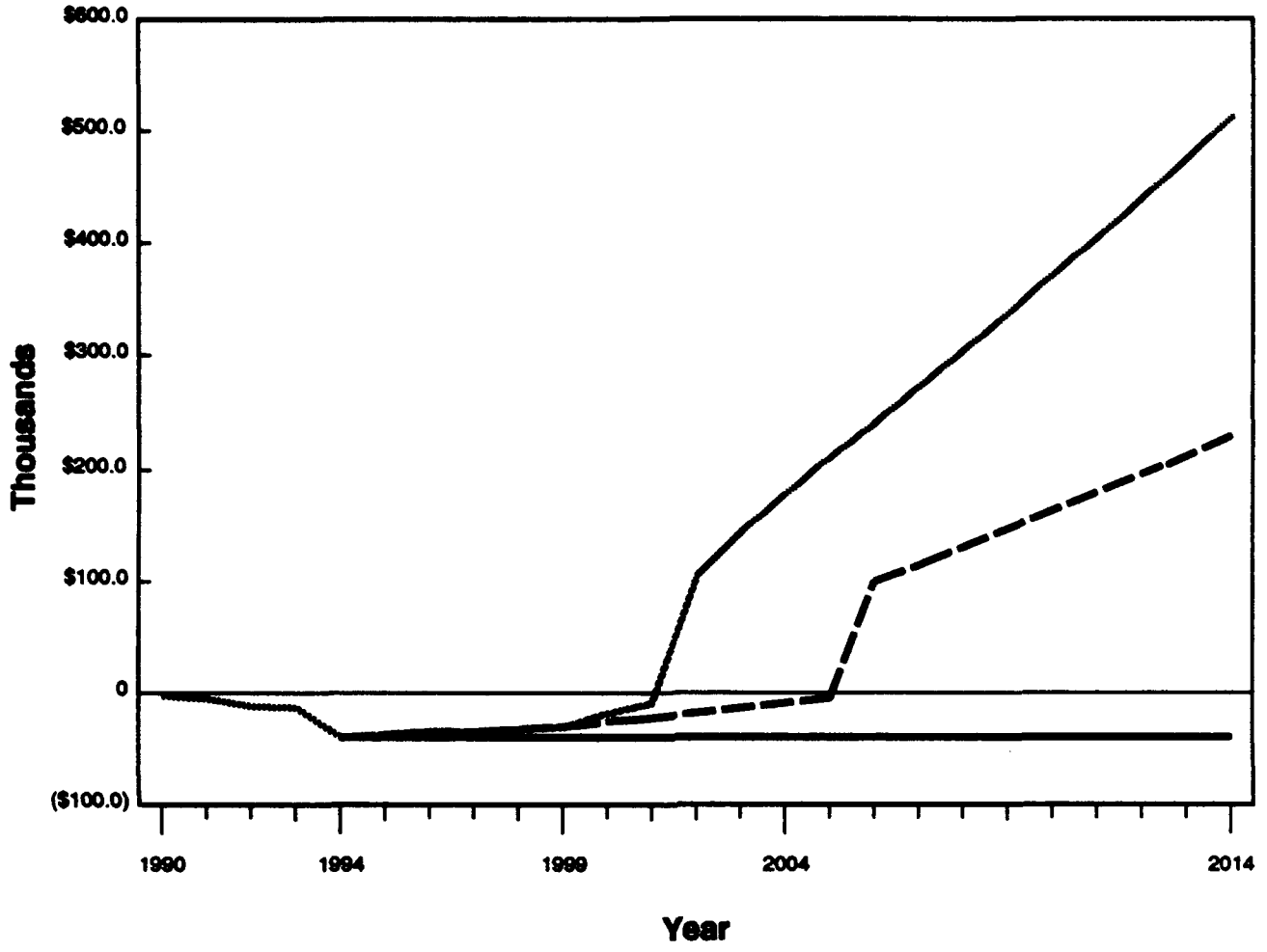


EXPLANATION

- Preclosure
- Proposed Action
- Military/Joint Use Aviation Alternative
- No-Action/Post-Closure

City of Peru Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-3



EXPLANATION

- Preclosure
- Proposed Action
- Military/Joint Use Aviation Alternative
- No-Action/Post-Closure

Howard County Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-4

and intergovernmental revenue are projected to be $31,250 by FY 1999 and $872,784 by FY 2014.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in county residents are estimated to require $21,025 in increased expenditures in FY 1999 and $321,935 by FY 2014. Projected positive net fiscal effects would be $10,225 by FY 1999 and $550,849 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $37,342 (see Section 3.6) in the early years of reuse. From closure through FY 2001, the county would be faced with gradually declining deficits. These deficits may require some response by the county through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources to maintain a balanced fiscal position before 2002. By FY 2002, the positive fiscal effects of this alternative would offset projected deficits due to base closure.

4.6.1.5 City of Kokomo. Fiscal effects of the Proposed Action on the City of Kokomo indicate an improvement over the post-closure scenario through FY 2014 (Figure 4.6-5).

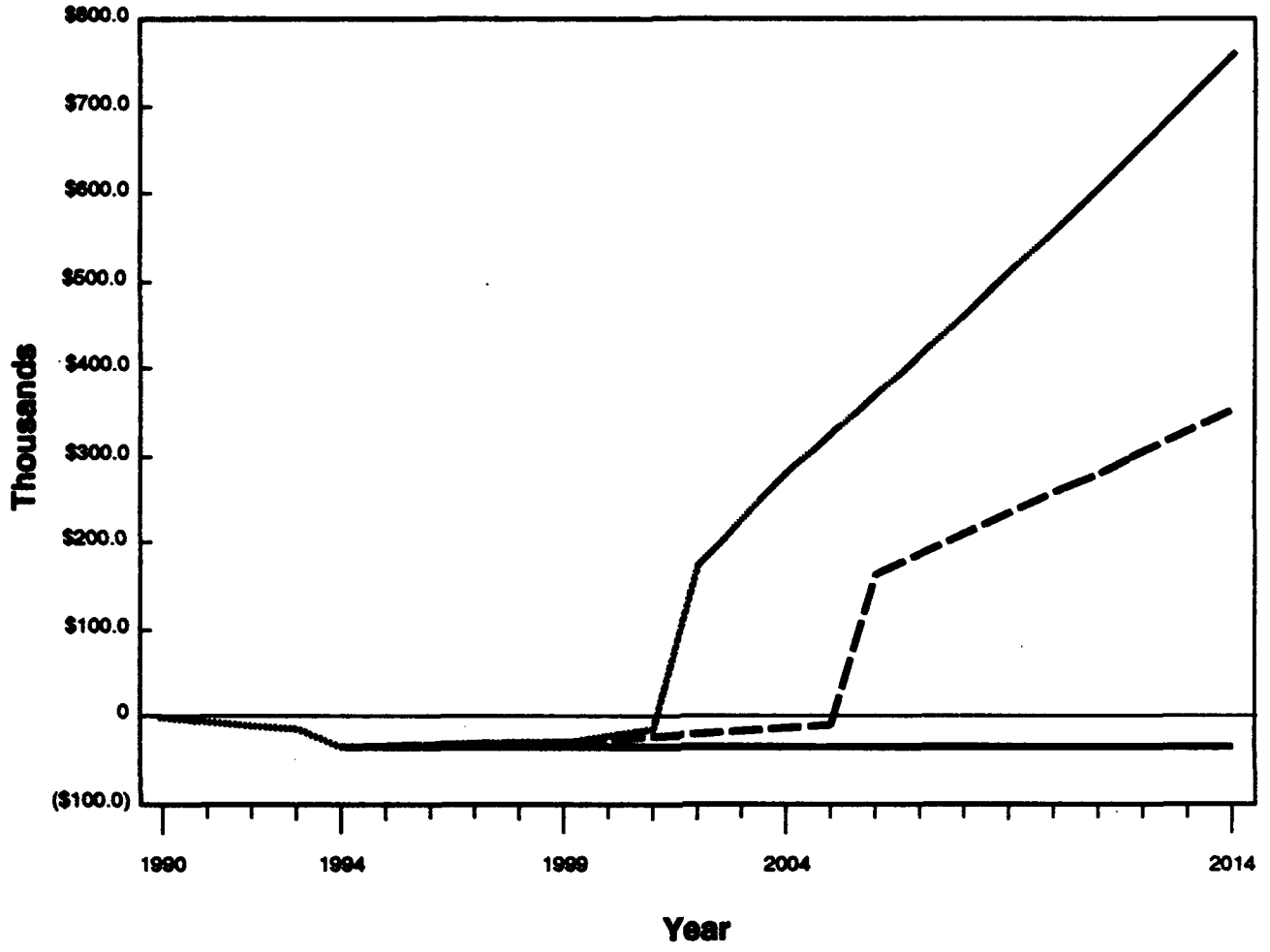
Revenues. Increased general and special revenue fund revenues, principally from increased property taxes and intergovernmental revenue, are projected to be $21,432 by FY 1999 and $1,016,285 by FY 2014.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $14,607 in increased expenditures in FY 1999 and $222,472 by FY 2014. Projected positive net fiscal effects would be $6,825 in FY 1999 and $793,813 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $31,555 (see Section 3.6) in the early years of reuse. From closure to FY 2001, the city would be faced with gradually declining deficits. These shortfalls may require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, or development of new revenue sources to maintain a balanced fiscal position before 2002. By FY 2002, the positive fiscal effects of this alternative would offset projected deficits due to base closure.

4.6.1.6 Maconaquah School Corporation. Fiscal effects of the Proposed Action on the Maconaquah School Corporation indicate an improvement over the post-closure scenario through FY 2014 (Figure 4.6-6).

Revenues. Total general fund increases due to the additional students generated under the Proposed Action are projected to be $103,904 in FY

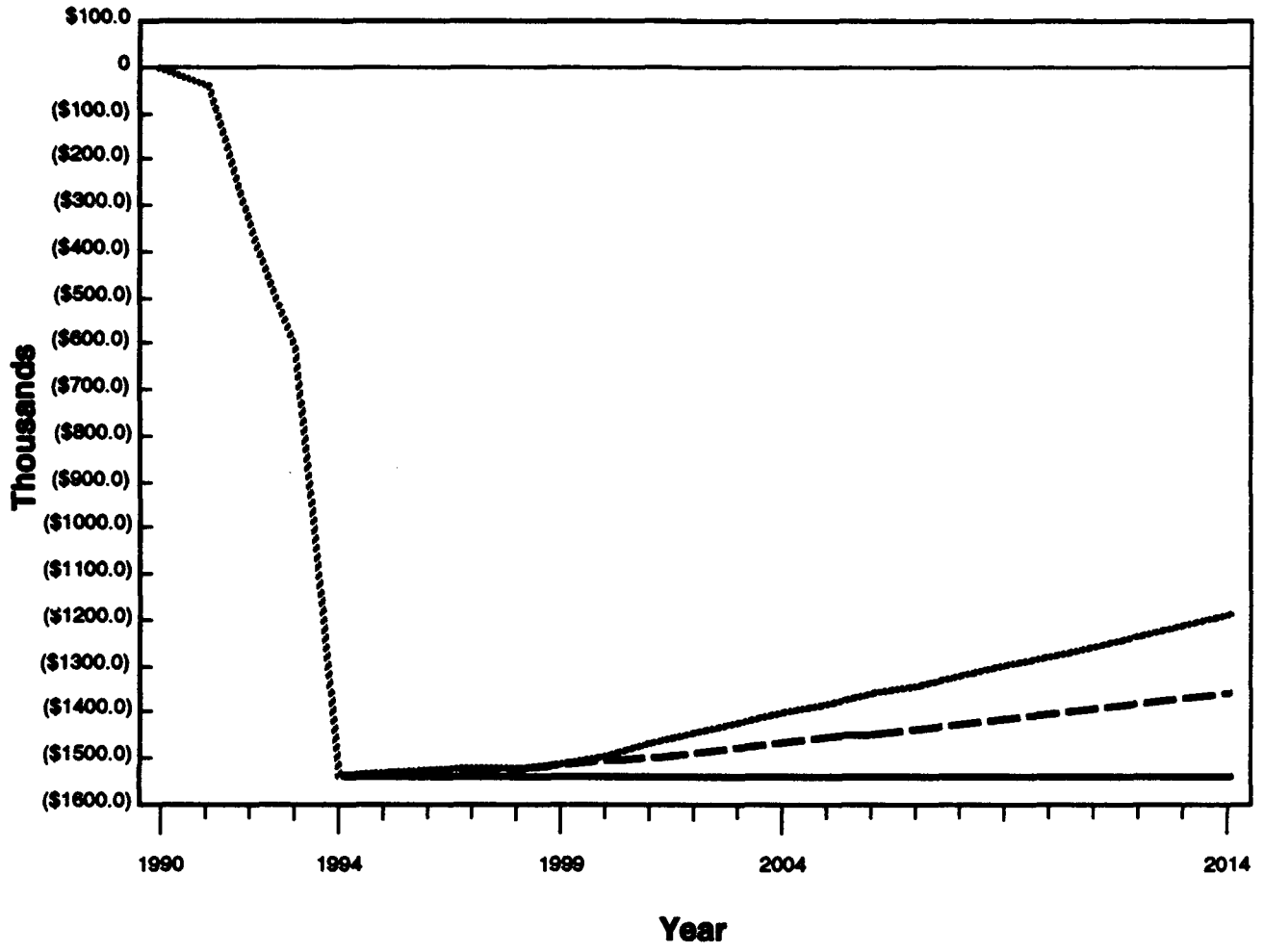


EXPLANATION

- Preclosure
- Proposed Action
- Military/Joint Use Aviation Alternative
- No-Action/Post-Closure

City of Kokomo Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-5



EXPLANATION

- Preclosure
- Proposed Action
- Military/Joint Use Aviation Alternative
- No-Action/Post-Closure

Maconaquah School Corporation Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-6

1999 and $1,542,325 by FY 2014. Corporation funding is principally from property taxes and state aid revenues. The property tax component of these increases is projected to be $649,420 by FY 2014 with the remainder of the increases attributable to state aid program revenues.

Expenditures and Net Fiscal Effects. Expenditure increases, principally from increased direct instruction costs, would be $80,624 by FY 1999 and $1,196,763 by FY 2014 for net revenue increases of $23,280 in FY 1999 and $345,562 in FY 2014.

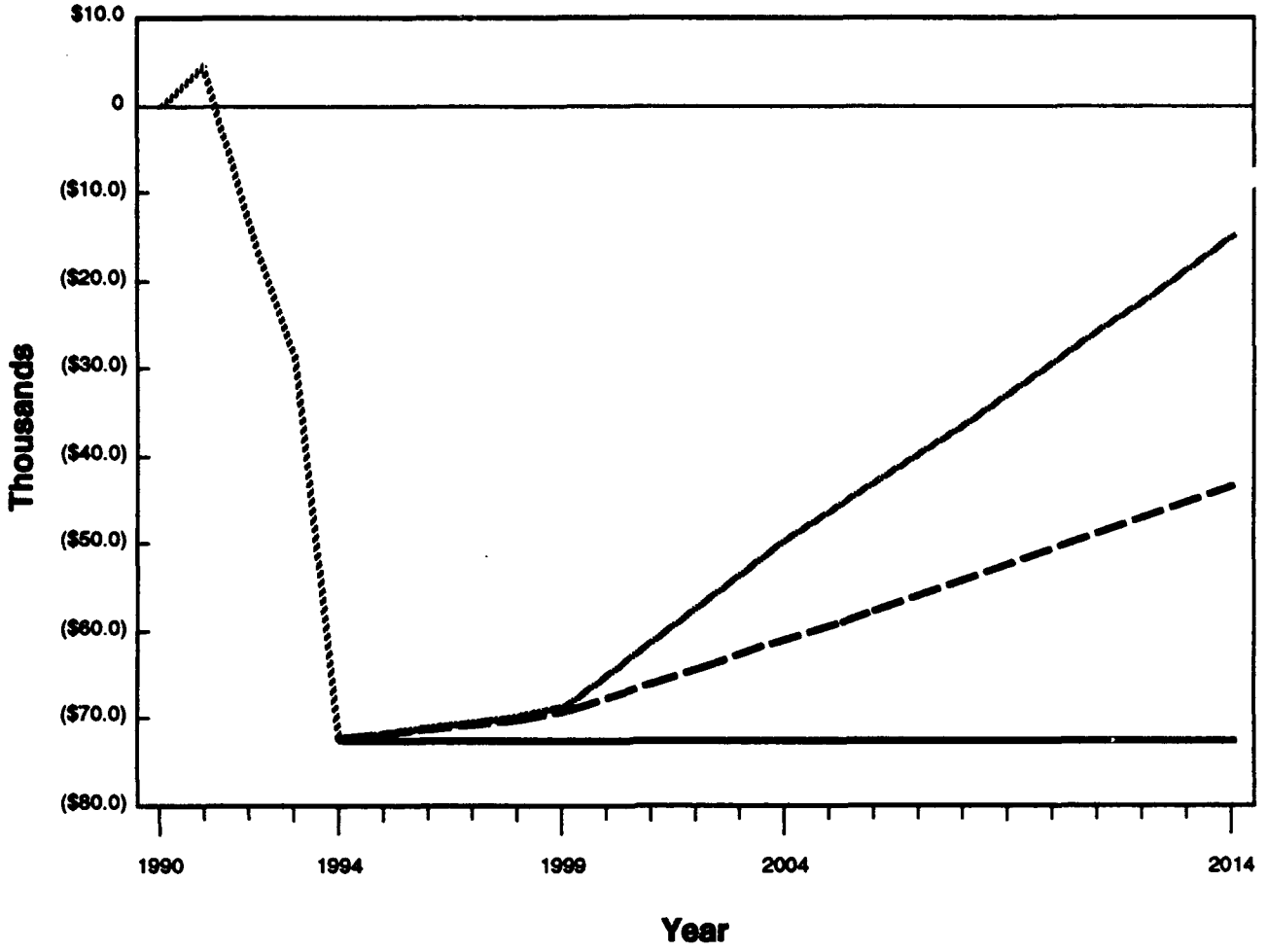
Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $1,529,960 (see Section 3.6). From closure through FY 2014, the corporation would be faced with gradually declining deficits ($1,506,681 in FY 1999 and $1,184,398 in FY 2014). This is due to the loss of P.L. 81-874 funds which are not replaced with state source revenue. If Section 3 transition entitlements are fully funded, these effects would be less severe and be apportioned in decreasing amounts over a 3-year period starting in FY 1995. Cutbacks in service levels and/or additional revenue from new revenue sources may be required to maintain a balanced fiscal position in the corporation.

4.6.1.7 Peru Community School Corporation. Fiscal effects of the Proposed Action on the Peru Community School Corporation indicate an improvement over the post-closure scenario through FY 2014 (Figure 4.6-7).

Revenues. Total general fund increases due to the additional students generated under the Proposed Action are projected to be approximately $111,200 in FY 1999 and $1,673,560 by FY 2014. Corporation funding is principally from property taxes and state aid revenues. Because no base land is located within the corporation boundaries, state aid program revenues would be the principle revenue source affected under this alternative.

Expenditures and Net Fiscal Effects. Expenditure increases, principally from increased direct instruction costs, would increase by $107,372 by FY 1999 and $1,615,949 by FY 2014 for net revenue increases of $3,828 in FY 1999 and $57,611 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $72,303 (see Section 3.6). From closure through FY 2014, the corporation would be faced with gradually declining deficits ($68,475 in FY 1999 and $14,692 in FY 2014). This is due to the loss of P.L. 81-874 funds which are not replaced with state source revenue. If Section 3 transition entitlements are fully funded, these effects would be less severe and be apportioned in decreasing amounts over a 3-year period starting in FY 1995. Cutbacks in service



EXPLANATION

- Preclosure
- Proposed Action
- Military/Joint Use Aviation Alternative
- No-Action/Post-Closure

Peru Community School Corporation Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-7

levels and/or additional revenue from new revenue sources may be required to maintain a balanced fiscal position in the corporation.

4.6.1.8 Kokomo-Center Township Consolidated School Corporation. Fiscal effects of the Proposed Action on the Kokomo-Center Township Consolidated School Corporation indicate an improvement over the post-closure scenario through FY 2014 (Figure 4.6-8).

Revenues. Total general fund increases due to the additional students generated under the Proposed Action are projected to be $86,025 in FY 1999 and $1,311,021 by FY 2014. Corporation funding is principally from property taxes and state aid revenues. Because no base land is located within the corporation boundaries, state aid program revenues would be the principle revenue source affected under this alternative.

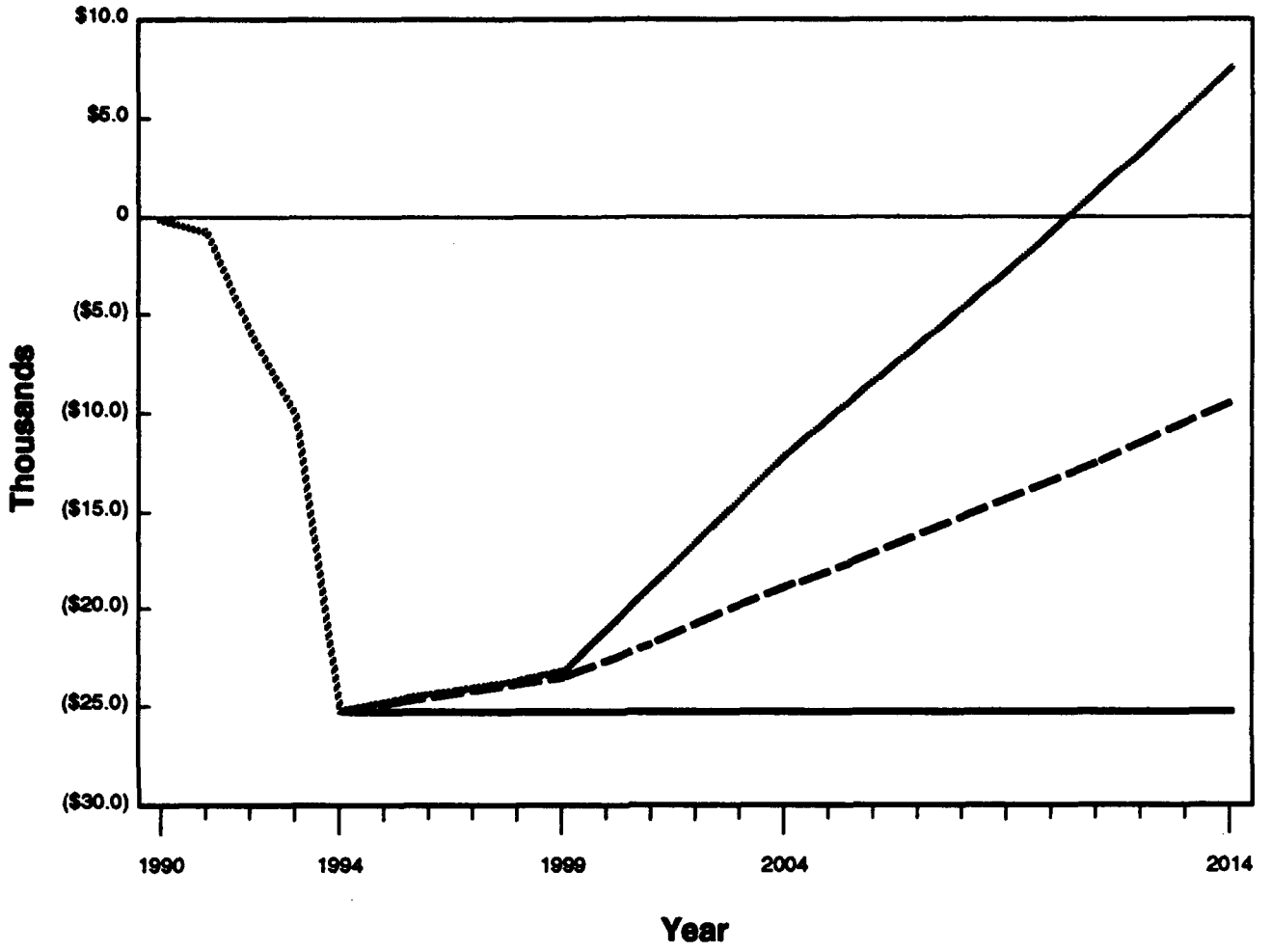
Expenditures and Net Fiscal Effects. Expenditure increases, principally from increased direct instruction costs, would increase by $83,874 by FY 1999 and $1,278,245 by FY 2014 for net revenue increases of $2,151 in FY 1999 and $32,776 in FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $25,119 (see Section 3.6) in the early years of reuse. From closure through FY 2010, the corporation would still be faced with gradually declining deficits. Cutbacks in service levels and/or additional revenue from new revenue sources may be required to maintain a balanced fiscal position in the corporation over this period. By 2011, the positive fiscal effect of this alternative would offset projected deficits due to closure.

4.6.2 Military/Joint Use Aviation Alternative

Key assumptions regarding future jurisdictional control of base property under this alternative, which influence the fiscal assessments, are presented below:

- The 203 acres designated for the aviation support uses would remain in public ownership and thus would not be subject to local property taxes.
- The 68 acres designated for industrial use and the 248 acres designated for commercial use would be sold to private interests and thus be subject to local property taxes.
- The 24 acres designated for institutional (educational) use are assumed to be sold to private interests and thus would be subject to local property taxes.



EXPLANATION

- Preclosure
- Proposed Action
- Military/Joint Use Aviation Alternative
- No-Action/Post-Closure

Kokomo-Center Township Consolidated School Corporation Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-8

- The 274 acres designated for residential use would be sold to private interests and thus be subject to local property taxes.

- Approximately 91 acres of the 149 acres designated for public/recreation uses would be sold to private interests and be subject to property taxes while the remaining acreage would remain in public ownership and would not be subject to local property taxes.

- The 136 acres designated for agricultural use would be sold to private interests and thus be subject to local property taxes.

- The 44 acres designated as vacant land would remain in public ownership and not be subject to local property taxes.

- The 1,576 acres designated for military uses would remain as federal property and would not be subject to local property taxes.

4.6.2.1 Miami County. Fiscal effects of this alternative on Miami County indicate an improvement over the post-closure scenario through FY 2014.

Revenues. Increased revenues to the general and special revenue funds would come from several sources. Property taxes would increase from conversion of a portion of the base to private use. Charges for services, other tax revenue, and intergovernmental revenue would increase as direct and secondary jobs attract in-migrants to the area. Increased general and special revenue fund revenues are projected to be $100,627 in FY 1999 and $850,322 by FY 2014.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in county residents are estimated to require $44,674 in increased expenditures in FY 1999 and $404,621 by FY 2014. Projected positive net fiscal effects would be $55,953 by FY 1999 and $445,701 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $217,123 (see Section 3.6) in the early years of reuse. From closure through FY 2005, the county would be faced with gradually declining deficits. These deficits may require some response by the county through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources. By FY 2006, the positive fiscal effect of this alternative would offset projected deficits due to closure.

4.6.2.2 Town of Bunker Hill. Fiscal effects of this alternative on the town of Bunker Hill indicate an improvement over the post-closure scenario through FY 2014.

Revenues. Increased general and special revenue fund revenues, principally from increased property taxes (due to projected population in-migration under this alternative greater than the out-migration projected for closure), fines and forfeits, and other taxes are projected to be $3,696 by FY 1999 and $56,502 by FY 2014.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in town residents are estimated to require $1,725 in increased expenditures by FY 1999 and $15,739 by FY 2014. Projected net positive fiscal effects would be $1,971 in FY 1999 and $40,763 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $4,928 (see Section 3.6) in the early years of reuse. From closure through FY 2001, the town would be faced with gradually declining deficits. These shortfalls may require some response by the town through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources. By FY 2002, the positive fiscal effects of this alternative would offset projected deficits due to base closure.

4.6.2.3 City of Peru. Fiscal effects of this alternative on the city of Peru indicate an improvement over the post-closure scenario through FY 2014.

Revenues. Increased general and special revenue fund revenues, principally from increased property taxes (due to projected population in-migration under this alternative greater than the out-migration projected for closure) and intergovernmental revenue, are projected to be $24,570 by FY 1999 and $519,645 by FY 2014.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $22,586 in increased expenditures in FY 1999 and $204,943 by FY 2014. Projected positive net fiscal effects would be $1,984 in FY 1999 and $314,702 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $7,560 (see Section 3.6) in the early years of reuse. From closure to FY 2004, the city would be faced with gradually declining deficits. These shortfalls may require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, or development of new revenue sources. By FY 2005, the positive fiscal effects of this alternative would offset projected deficits due to base closure.

4.6.2.4 Howard County. Fiscal effects of this alternative on Howard County indicate an improvement over the post-closure scenario through FY 2014.

Revenues. Increased general and special revenue fund revenues, principally from increased property taxes (due to projected population in-migration under this alternative greater than the out-migration projected for closure) and intergovernmental revenue are projected to be $26,125 by FY 1999 and $424,308 by FY 2014.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in county residents are estimated to require $17,577 in increased expenditures in FY 1999 and $156,510 by FY 2014. Projected positive net fiscal effects would be $8,548 by FY 1999 and $267,798 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $37,342 (see Section 3.6) in the early years of reuse. From closure through FY 2005, the county would be faced with gradually declining deficits. These deficits may require some response by the county through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources. By FY 2006, the positive fiscal effects of this alternative would offset projected deficits due to base closure.

4.6.2.5 City of Kokomo. Fiscal effects of this alternative on the city of Kokomo indicate an improvement over the post-closure scenario through FY 2014.

Revenues. Increased general and special revenue fund revenues, principally from increased property taxes and intergovernmental revenue, are projected to be $17,907 by FY 1999 and $496,509 by FY 2014.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $12,205 in increased expenditures in FY 1999 and $108,689 by FY 2014. Projected positive net fiscal effects would be $5,702 in FY 1999 and $387,820 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $31,555 (see Section 3.6) in the early years of reuse. From closure to FY 2005, the city would be faced with gradually declining deficits. These shortfalls may require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, or development of new revenue sources. By FY 2006, the positive fiscal effects of this alternative would offset projected deficits due to base closure.

4.6.2.6 Maconaquah School Corporation. Fiscal effects of this alternative on the Maconaquah School Corporation indicate an improvement over the post-closure scenario through FY 2014.

Revenues. Total general fund increases due to the additional students generated under this alternative are projected to be $87,669 in FY 1999 and $782,527 by FY 2014. Corporation funding is principally from property taxes and state aid revenues. The property tax component of these increases is projected to be $318,256 by FY 2014 with the remainder of the increases attributable to state aid program revenues.

Expenditures and Net Fiscal Effects. Expenditure increases, principally from increased direct instruction costs, would be $68,027 by FY 1999 and $607,200 by FY 2014 for net revenue increases of $19,642 in FY 1999 and $175,327 in FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $1,529,960 (see Section 3.6). From closure through FY 2014, the corporation would be faced with gradually declining deficits ($1,510,318 in FY 1999 and $1,354,633 in FY 2014). This is due to the loss of P.L. 81-874 funds which are not replaced with state source revenue. If Section 3 transition entitlements are fully funded, these effects would be less severe and be apportioned in decreasing amounts over a 3-year period starting in FY 1995. Cutbacks in service levels and/or additional revenue from new revenue sources may be required to maintain a balanced fiscal position in the corporation.

4.6.2.7 Peru Community School Corporation. Fiscal effects of this alternative on the Peru Community School Corporation indicate an improvement over the post-closure scenario through FY 2014.

Revenues. Total general fund increases due to the additional students generated under this alternative are projected to be approximately $94,520 in FY 1999 and $845,120 by FY 2014. Corporation funding is principally from property taxes and state aid revenues. Because no base property is located within the corporation's boundaries, state aid program revenues would be the principal revenue source affected under this alternative.

Expenditures and Net Fiscal Effects. Expenditure increases, principally from increased direct instruction costs, would increase by $91,266 by FY 1999 and $816,027 by FY 2014 for net revenue increases of $3,254 in FY 1999 and $29,093 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $72,303 (see Section 3.6). From closure through FY 2014, the corporation would be faced with gradually declining deficits ($69,049 in FY 1999 and $43,210 in FY 2014). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue. If Section 3 transition entitlements are fully funded, these effects would be less severe and be apportioned in decreasing amounts over a 3-year period starting in FY 1995. Cutbacks in service

levels and/or additional revenue from new revenue sources may be required to maintain a balanced fiscal position in the corporation.

4.6.2.8 Kokomo-Center Township Consolidated School Corporation. Fiscal effects of this alternative on the Kokomo-Center Township Consolidated School Corporation indicate an improvement over the post-closure scenario through FY 2014.

Revenues. Total general fund increases due to the additional students generated under this alternative are projected to be $72,261 in FY 1999 and $629,703 by FY 2014. Corporation funding is principally from property taxes and state aid revenues. Because no base property is located within the corporation's boundaries, state aid program revenues would be the principal revenue source affected under this alternative.

Expenditures and Net Fiscal Effects. Expenditure increases, principally from increased direct instruction costs, would increase by $70,454 by FY 1999 and $613,960 by FY 2014 for net revenue increases of $1,807 in FY 1999 and $15,743 in FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $25,119 (see Section 3.6). From closure through FY 2014, the corporation would be faced with gradually declining deficits ($23,312 in FY 1999 and $9,376 in FY 2014). Cutbacks in service levels and/or additional revenue from new revenue sources may be required to maintain a balanced fiscal position in the corporation.

4.6.3 No-Action Alternative

Public finance effects for the No-Action Alternative would be those described in Section 3.6 under closure conditions and highlighted in the introduction to Section 4.6.1.

4.7 TRANSPORTATION

The effects of the Proposed Action and alternatives on roadways are presented in this section. Because neither the Proposed Action nor any of the alternatives assumes direct use of local railroads or other modes of transportation, including air transportation, effects on these transport modes are expected to be minimal and are not included in the study. A more detailed discussion is presented in Section 4.2.3 of the *EIS for Disposal and Reuse for Grissom AFB, Indiana.*

For the purpose of this analysis, the roads most likely to be affected by the reuse alternatives are U.S. 31, Old U.S. 31, and SH 218 (Jct. West). Figure 3.7-1 shows the local transportation system.

Based on the reuse development schedule for each land use, the total vehicle trips generated by on-site activities over time were determined. The analysis focused on the weekday afternoon peak hour vehicle trips.

The distribution of reuse-generated trips to and from the site is based on existing travel patterns for commuters and on the locations of residences of civilian base personnel as obtained from zip code data. It was assumed that the residential choices of the project-related employees would correspond to those of the civilian base personnel. Then, trips were assigned to appropriate routes based on the trips distribution, the existing roadways, and access points. The resulting reuse-related peak-hour volumes from the project were then added to the peak hour of non-project-generated traffic (background) projected under post-closure baseline conditions. Future non-reuse related traffic was projected using a 1 percent annual traffic growth rate during the 20-year period of analysis, applied to all traffic volumes on key roads.

Traffic effects were determined based on LOS changes for each of the key roads. Intersections along key roads that would experience heavy traffic were examined for deficiencies. Details on reuse are not sufficiently developed to permit an in-depth evaluation of intersection levels of service.

The Proposed Action and the Military/Joint Use Aviation Alternative assume that existing on-base roads would be used during the construction period, and eventually the on-base network would be upgraded and extended where local development plans dictate a need based on community objectives and standards.

With Grissom AFB closed and in caretaker status, afternoon peak-hour traffic volume by 2014 is projected to be 2,200 vehicles on U.S. 31 in the vicinity of the Main Gate, and 1,100 vehicles on Old U.S. 31 in the vicinity of U.S. 31. This would bring operating conditions on Old U.S. 31 to LOS D or better by 2014. All other key road segments (including U.S. 31 segments) would operate at LOS B or better during the period of analysis.

4.7.1 Proposed Action

Roadways. Peak hour traffic generated under the Proposed Action includes industrial, commercial/retail and associated construction activity as well as traffic generated by the 434th Wing. Based on the proposed reuse schedule, the number of peak-hour trips generated by the Proposed Action would increase steadily during the 20-year analysis period, and in 2014 total approximately 5,900 vehicle trips.

These peak hour trips would be distributed to the key roads from nine access points; the five existing gates; and four new access points (two on U.S. 31 and two on 850 South Road).

Regional. By 2014, traffic resulting from the Proposed Action would increase the afternoon peak hour traffic on U.S. 31 between 800 South Road and Old U.S. 31 by approximately 2,700 vehicles over post-closure conditions in 2014. This increase would degrade the projected operating conditions on all segments of U.S. 31 to LOS D by the year 2010 as compared to LOS A at closure. All other key regional road segments would continue to operate at LOS C or better.

Local. Traffic generated by reuse on both two-lane segments of Old U.S. 31 (U.S. 31 to 225 South Road and 225 South to West River Road) would increase the afternoon peak hour volumes over the 2014 post-closure conditions by 1,900 and 1,550 vehicles, respectively. This increase would cause Old U.S. 31 on these segments to operate at LOS F by 2011.

Under the Proposed Action, traffic generated by reuse would increase the afternoon peak hour traffic on SH 218 (Jct. West) between 400 West Road and U.S. 31 by 1,150 vehicles over the 2014 post-closure conditions, resulting in LOS E by 2011.

With or without reuse, all other key local road segments would operate at LOS C or better throughout the period of analysis.

Air Transportation. The Proposed Action includes the continued use of the airfield by the 434th Wing and military transient aircraft, the same as closure conditions.

The Proposed Action does not include commercial passenger of air cargo services at Grissom AFB. These services at other facilities in the state would be unchanged from closure baseline.

Other Transportation Modes. Effects to rail service would be minimal as the Proposed Action assumes no direct use of local railroads.

4.7.2 Military/Joint Use Aviation Alternative

Roadways. Peak hour traffic generated under the Military/Joint Use Aviation Alternative includes industrial and commercial/retail, and residential land uses and associated construction activity. In addition, minimal traffic is generated by the 434th Wing. Based upon the proposed reuse schedule, the number of peak-hour trips generated by the Military/Joint Use Aviation Alternative would increase steadily during the 20-year analysis period and in 2014 total approximately 3,100 vehicle trips.

These peak hour trips would be distributed to the key roads from eight access points: the five existing gates, and three new access points (one on U.S. 31 and two on 850 South Road).

Regional. By 2014, traffic resulting from the Military/Joint Use Aviation Alternative would increase the afternoon peak hour traffic on U.S. 31 between 800 South Road and Old U.S. 31 by 1,400 vehicles over post-closure conditions in 2014. This increase would degrade the projected LOS to C on this section of U.S. 31 by the year 2010. All other key regional road segments would continue to operate at LOS B or better.

Local. Traffic generated by reuse on both two-lane segments of Old U.S. 31 would increase the afternoon peak hour volumes. This increase would degrade the projected LOS to E by 2007. The segment between U.S. 31 and 225 South Road would be most affected with afternoon peak hour traffic increasing by 1,000 vehicles.

Under the Military/Joint Use Aviation Alternative, traffic generated by reuse would increase the afternoon peak hour traffic on SH 218 (Jct. West) between the 400 West Road and U.S. 31 by 350 vehicles over the 2014 post-closure conditions, resulting in LOS C by 2008. Without reuse, LOS B or better would prevail during the period of analysis.

All other key local road segments would operate at LOS B or better throughout the period of analysis.

Air Transportation. The Military/Joint Use Aviation Alternative includes continued military aircraft activity in addition to civilian reuse activities. Implementation of the Military/Joint Use Aviation Alternative would not provide commercial service at Grissom AFB. Air cargo service would be provided on a limited basis (five days a week using small prop-type aircraft). There would be no effects on commercial passenger service at other facilities in the state. Air cargo service at Kokomo and Logansport airports may be affected by the division of some cargo business to Grissom AFB.

Other Transportation Modes. Effects to rail service would be minimal as the Military/Joint Use Aviation Alternative assumes no direct use of local railroads.

4.7.3 No-Action Alternative

Transportation effects of the No-Action Alternative would be the same as those conditions described in Section 3.7 and at the beginning of Section 4.7. Under the No-Action Alternative, with Grissom AFB closed and in caretaker status (including OL and 434th Wing), the expected population growth and development unrelated to reuse of Grissom AFB would lead to traffic volume increases on local roadways through 2014. It is projected that traffic volumes on key roads would increase annually at a rate of 1 percent during the 20-year period of analysis.

In caretaker status, on-base roads would only be used by the OL and the 434th Wing. All on-base roads would operate at LOS A.

Effects of the No-Action Alternative are the same as under the Proposed Action.

4.8 UTILITIES

This section describes the type of utility demand and subsequent infrastructure changes that would be required under the Proposed Action and each reuse alternative. A more detailed discussion is provided in Section 4.2.4 of the *EIS for the Disposal and Reuse of Grissom AFB, Indiana*.

Changes in total regional utility demand in the ROI (the site and its nearby communities of Peru, Bunker Hill, Walton, and Miami) were derived for each reuse by applying preclosure per capita use rates for each area of the ROI to the estimated number of regional in-migrants, and by adding a portion of the on-site demands. On-site demands were estimated by applying use rates to appropriate land use units.

With the Proposed Action and alternatives, no infrastructure improvements or new supply sources would be required in the ROI before 2014. NIPSCO, PSI Energy, and Peru Utilities have adequate capacity to supply the projected demands for natural gas and electricity under all reuse plans. However, improvements and extensions to on-site infrastructure may be required. The specific on-site infrastructure improvements needed, and the associated costs for such improvements, would be borne by the future site developer(s). The reuse of the newly upgraded base WWTP would require adaptation to operate efficiently and to maintain compliance under new conditions resulting from reuse (low flows and insufficient biological oxygen demand in the absence of the residential component). Electric and natural gas interruptions are not anticipated as a result of the Proposed Action or Military/Joint Use Aviation Alternative throughout the period of analysis.

With Grissom AFB closed and in caretaker status (the No-Action Alternative), utilities consumption would increase slightly with population growth in the utilities ROI from closure through 2014. It is estimated that with the No-Action Alternative, the utilities associated with ROI population would increase by 3 percent during the 20-year period from 1994 to 2014. ROI water consumption would decrease from 2.97 MGD at preclosure (1990) to 2.08 MGD at closure (1994), and then increase to 2.14 MGD by 2014; wastewater treatment demand would decrease from 2.54 MGD at preclosure to 1.72 MGD at closure, and then increase slightly to 1.77 MGD by 2014; solid waste production would decrease from 32.0 tons/day at preclosure to 24.1 tons/day at closure, and then increase slightly to 24.8 tons/day by 2014; electrical consumption would decrease from 670

MWH/day at preclosure to 539 MWH/day at closure, and then increase to 555.1 MWH/day by 2014; and natural gas consumption in the ROI would decrease from 37,900 therms/day at preclosure to 29,600 therms/day at closure, and then increase to 30,500 therms/day by 2014.

Under the Proposed Action, the ROI utility demands would increase gradually during the period of analysis. Water and wastewater demands would remain below the 1990 preclosure levels but solid waste, electricity and natural gas demands would exceed the 1990 preclosure by 2014. Under the Military/Joint Use Aviation Alternative, all utility demands would increase slightly throughout the period of analysis, but would remain less than or approximately equal to 1990 preclosure levels.

The Proposed Action would generate the highest utility demands both in the ROI and on-site and would increase appreciably the demand for electricity and natural gas when compared to the Military/Joint Use Aviation Alternative.

4.8.1 Proposed Action

A summary of regional utility demand changes associated with the Proposed Action is shown in Table 4.8-1. Under the Proposed Action, the ROI demand for water, wastewater, solid waste, electricity, and natural gas would increase by less than 5 percent of the demand projected under post-closure conditions through 1999. By 2014, increases in utility demand associated with the Proposed Action would range from 32 to 77 percent over projected post-closure conditions in 2014.

4.8.2 Military/Joint Use Aviation Alternative

A summary of regional utility demand changes associated with the Military/Joint Use Aviation Alternative is shown in Table 4.8-1. Under this alternative, the ROI utility demand would increase by less than 4 percent of the demand projected under post-closure conditions through 1999. By 2014, increases in utility demand from this reuse alternative would range from 16 to 31 percent over projected post-closure conditions.

4.8.3 No-Action Alternative

Utility effects for the No-Action Alternative would be those described at the beginning of Section 4.8, and in Section 3.8 as closure conditions.

4.9 OTHER LAND USE CONCEPTS

This study includes an in-depth analysis only for those reuse options that, as a whole, provide an integrated plan for future site redevelopment. The other land use concept (PSTI) described in Section 1.4.4 could occur on an

Table 4.8-1. Total Projected Daily Utility Use in ROI

	1999			2004			2014		
	Total ROI	Reuse-Related	Percent Increase	Total ROI	Reuse-Related	Percent Increase	Total ROI	Reuse-Related	Percent Increase
Water Consumption (MGD)									
No-Action	2.10			2.12			2.14		
Proposed Action	2.15	0.05	2.4	2.42	0.30	14.2	2.88	0.74	34.6
Military/Joint Use Aviation	2.14	0.04	1.9	2.27	0.15	7.1	2.52	0.38	17.8
Wastewater Treatment (MGD)									
No-Action	1.74			1.75			1.77		
Proposed Action	1.78	0.04	2.3	1.99	0.24	13.7	2.34	0.57	32.2
Military/Joint Use Aviation	1.77	0.03	1.7	1.87	0.12	6.9	2.06	0.29	16.4
Solid Waste Disposal (tons/day)									
No-Action	24.4			24.6			24.8		
Proposed Action	25.6	1.2	4.9	31.2	6.6	26.8	43.9	19.1	77.0
Military/Joint Use Aviation	25.3	0.9	3.7	27.8	3.2	13.0	32.4	7.6	30.6
Electrical Consumption (MWH/day)									
No-Action	544.5			549.8			555.1		
Proposed Action	557.4	12.9	2.4	628.0	78.2	14.2	786.2	231.1	41.6
Military/Joint Use Aviation	555.0	10.5	1.9	587.4	37.6	6.8	647.0	91.9	16.6
Natural Gas Consumption (thousand therms/day)									
No-Action	29.9			30.2			30.5		
Proposed Action	30.8	0.9	3.0	37.9	7.7	25.5	50.7	20.2	66.2
Military/Joint Use Aviation	30.6	0.7	2.3	32.8	2.6	8.6	36.8	6.3	20.7

Note: No-Action Alternative represents the closure baseline conditions.

MGD = Million gallons per day.
MWH = Megawatt-hours.
ROI = Region of Influence.

individual basis or in combination with one of the reuse alternatives and would, therefore, selectively enhance or detract from site redevelopment. A descriptive treatment of the potential effects is presented in this section (and summarized in Table 4.9-1).

Public Safety Training Institute. The Indiana State Emergency Management Agency has requested approximately 135 acres for a PSTI. Direct employment is estimated at 55 instructors. This represents a reduction of 98 direct employees from the Proposed Action reuse of the same area and a decrease of 7 direct employees from the Military/Joint Use Aviation Alternative.

As on-site employment (and thus earnings) is changed by the independent proposal, local and regional secondary employment effects of the alternatives would change, including non-payroll spending associated with the independent proposal compared to displaced industrial or commercial endeavors, construction costs among the various land uses, and the propensity to consume local goods and services by employees and occupants of the proposed facilities compared to those displaced.

Table 4.9-1. Socioeconomic Effects of Other Land Use Concepts

Agency/Proposal	Employment/Population	Alternative	Change in Reuse Plan
Indiana State Emergency Management Agency/ Public Safety Training Institute	55 direct jobs	Proposed Action	Reduced industrial development (by 20 acres) Reduced institutional use (by 10 acres) Reduced commercial land (by 2 acres) Reduced vacant land (by 79 acres) Net decrease of 98 on-site jobs, 77 secondary jobs, and 163 migratory population
		Military/Joint Use Aviation	Reduced industrial use (by 4 acres) Reduced institutional use (by 10 acres) Reduced commercial land (by 2 acres) Reduced residential land (by 7 acres) Reduced public/recreation land (by 9 acres) Reduced agricultural land (by 79 acres) Net decrease of 7 on-site jobs, 3 secondary jobs, and 11 migratory population

5.0 CONSULTATION AND COORDINATION

The federal, state, and local agencies and private agencies/organizations that were contacted during the course of preparing this Socioeconomic Impact Analysis Study are listed below.

FEDERAL AGENCIES

Grissom Air Force Base
U.S. Department of Agriculture
U.S. Department of Commerce, Bureau of the Census
U.S. Department of Commerce, Bureau of Economic Analysis
U.S. Department of Education
U.S. Department of Justice, Federal Bureau of Prisons

STATE AGENCIES

Indiana Department of Education
Indiana Department of Employment and Training Services
Indiana Department of Transportation
Indiana State Board of Accounts
Indiana State Department of Health

LOCAL/REGIONAL AGENCIES

City of Peru
Howard County
Howard County Sheriff's Department
Indiana University
Kokomo-Center Township Consolidated School Corporation
Kokomo Fire Department
Kokomo Police Department
Maconaquah School Corporation
Miami County
Miami County Agriculture Extension Services
Miami County Sheriff's Department
Peru Community School Corporation
Peru Fire Department
Peru Police Department
Town of Bunker Hill
Town of Walton

PRIVATE ORGANIZATIONS

Amtrak
Bunker Hill Utilities
Byers Recycling and Disposal Facility
H&H Trash Removal, Inc.
Health Professions Bureau
Kokomo Gas and Fuel Company
Northern Indiana Public Service Company
Peru Utilities
PSI Energy
Waste Management of Central Indiana

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David G. Jury, Senior Staff Environmental Specialist, The Earth Technology Corporation
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Years of Experience: 5

William Livingstone, Principal Planner, Robert D. Niehaus, Inc.
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M.A., 1966, Urban and Regional Planning, University of Southern California, Los Angeles
Years of Experience: 35

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B.A., 1976, Psychology, University of Central Florida, Orlando
M.A., 1981, Experimental Psychology, University of South Florida, Tampa
Years of Experience: 11

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Years of Experience: 24

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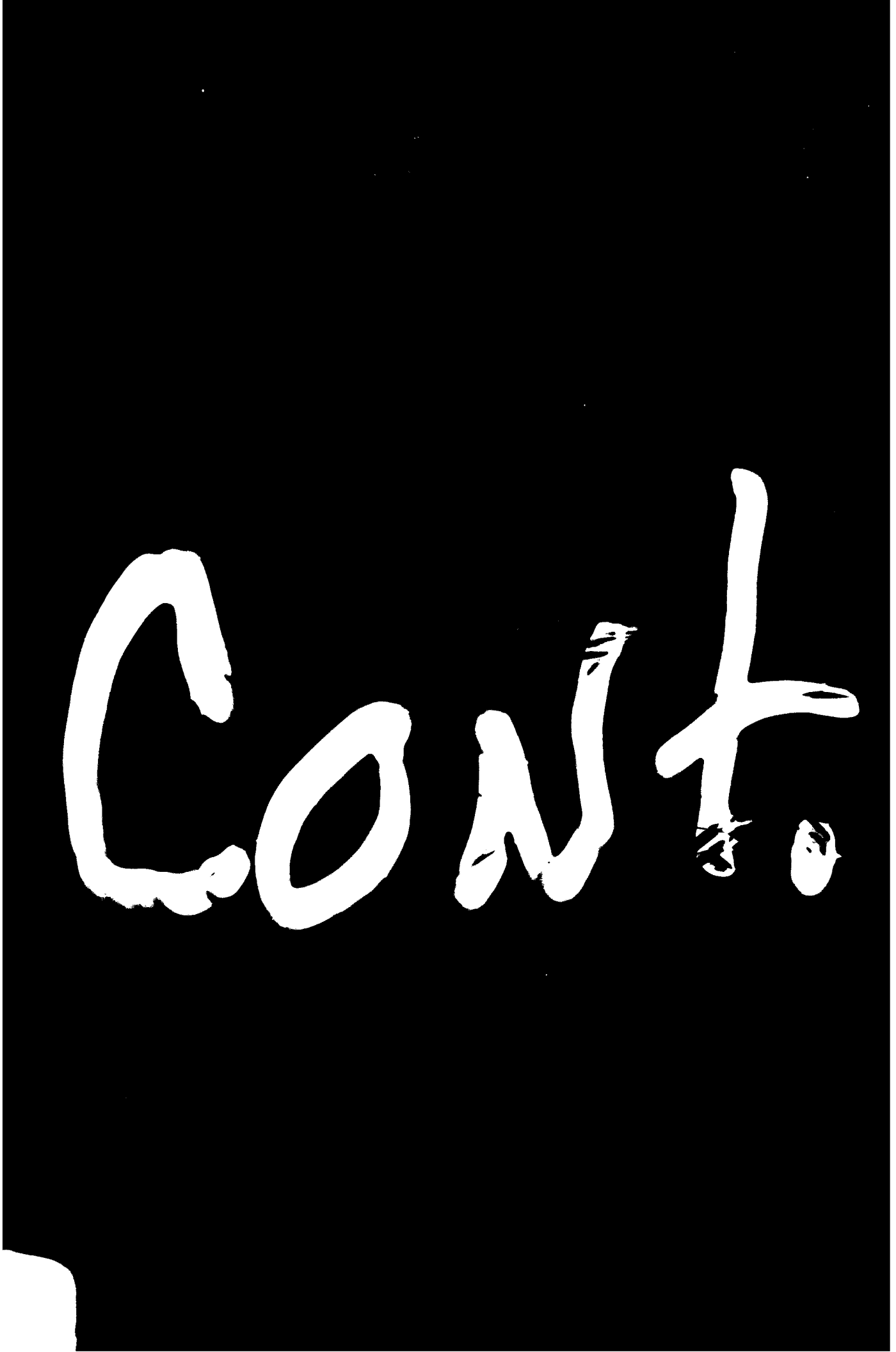
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SUPPLEMENTARY

INFORMATION

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS AIR FORCE BASE TEXAS

13 OCT 1994

HQ AFCEE/EC
8106 Chennault Road
Brooks AFB TX 78235-5318

RE: Revisions to the Grissom Air Force Base (AFB) Socioeconomic Impact Analysis Study (SIAS) Document

TO: Recipients of the Grissom AFB SIAS

In August 1993, the Socioeconomic Impact Analysis Study (SIAS) - Disposal and Reuse of Grissom AFB was distributed to the public by the US Air Force. Subsequent to this publication, a number of revisions were made to the Environmental Impact Study Disposal and Reuse of Grissom AFB which necessitated the preparation of the attached Errata Pages. A summary of the revisions are indicated below:

The reuse of Grissom AFB will only occur on property outside the designated military cantonment.

Throughout the document **closure** is changed to **realignment.**

Throughout the document **preclosure** is changed to **prerealignment.**

Throughout the document the **Military/Joint Use Aviation Alternative** is changed to **Joint Use Aviation Alternative.**

Throughout the document the **434th Wing** is changed to **434th Air Reserve Wing (434th ARW).**

The SIAS - Disposal and Reuse of Grissom AFB, Indiana is changed to SIAS - Disposal and Reuse of Portions of Grissom AFB, Indiana.

The military cantonment boundary has been revised and no longer contains the existing Weapons Storage Area (WSA), outdoor small arms firing range, and utility plants (central heating plant, wastewater treatment plant (WWTP), and water treatment plant). The WSA and outdoor small arms firing range are now considered excess property and have been changed to industrial and commercial land uses under the Proposed Action and aviation support and commercial land uses under the Joint Use Aviation Alternative. A new WSA and outdoor small arms firing range are proposed to be built by the Air Force Reserve in the 136-acre parcel on the western portion of the base, which was vacant land used under the Proposed Action and agricultural land use under the Joint Use Aviation Alternative. The existing utility plants have been changed to industrial

land use under the Proposed Action and public uses under the Joint Use Aviation Alternative. It is expected that these systems would be operated by a private purveyor. Analysis of these land use changes and their effects to local government public services and public finance has been prepared as Errata Sheets and included in this package.

2. Questions regarding the attached errata pages should be addressed to Mr. Tom Adamcyk, HQ AFCEE/ECP, telephone (210) 536-3765.

Sincerely

BRUCE R. LEIGHTON, P.E.
Technical Assistant, Environmental Conservation
and Planning Directorate

1 Attachment:
SIAS Errata Pages

SUPPLEMENTARY

INFORMATION

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS AIR FORCE BASE TEXAS

1 3 OCT 1994

HQ AFCEE/EC
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Sincerely

BRUCE R. LEIGHTON, P.E.
Technical Assistant, Environmental Conservation
and Planning Directorate

1 Attachment:
SIAS Errata Pages

Errata AD A281879

ERRATA PAGES

SOCIOECONOMIC IMPACT ANALYSIS STUDY

OCTOBER 1994

DISPOSAL AND REUSE OF

GRISSOM AIR FORCE BASE, INDIANA

If the base is placed in caretaker status and not reused for other purposes, most or all of the "mothballed" facilities outside the military cantonment would be restricted from access. Security and minimal maintenance activities would provide only limited employment opportunities on the base. A total of 50 direct and 12 secondary jobs would be required to maintain the premises. This closure and caretaker scenario, including the military cantonment, serves as the closure baseline and No-Action Alternative for this study.

A four-county area (Miami, Howard, Cass, and Wabash) was initially considered the region of influence (ROI) for purposes of describing and analyzing the socioeconomic effects. The ROI was then refined for each issue area as appropriate.

In the absence of any reuse of the base, population in the ROI would fall from 191,206 in 1990 to 184,174 at closure in September 1994. Over the next 20 years, the population in the ROI would increase at a rate of less than 0.1 percent per year, to approximately 184,990 by 2014, based upon Indiana University School of Business population projections.

This report analyzes the socioeconomic effects of two conceptual plans involving reuse of the base by private and public entities. Both plans are compared with projected post-closure conditions without reuse during the 20 years following base closure. The alternative plans are the following:

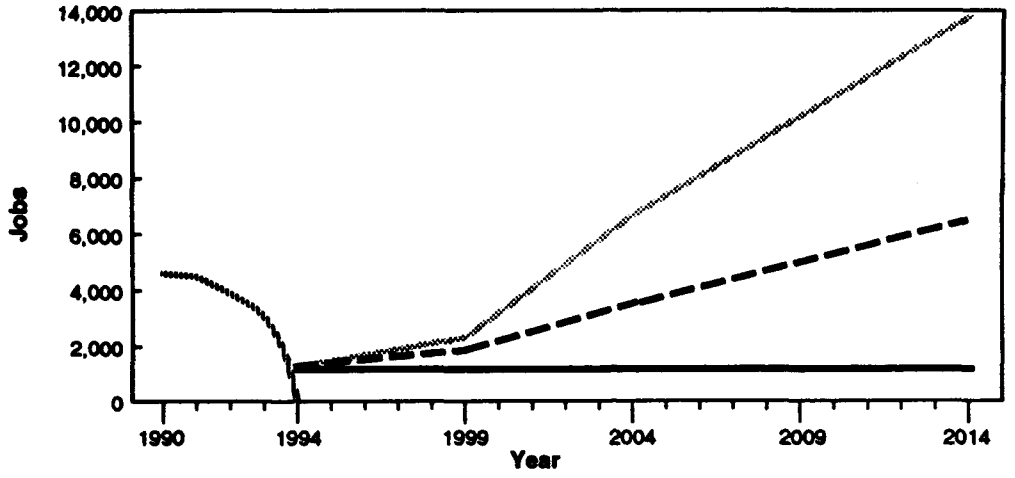
Proposed Action. Major land use components in the Proposed Action would include the military cantonment (1,452 acres), industrial (774 acres), and commercial (419 acres) areas and comprise 96 percent of the proposed land uses. Institutional (educational), public/recreation, and vacant land constitute the remainder of the proposed uses.

Military/Joint Use Aviation Alternative. Major land use components in the Military/Joint Use Aviation Alternative would include the military cantonment (1,452 acres), commercial (491 acres), and residential (293 acres), and comprise approximately 82 percent of the proposed land use. Aviation support, industrial, institutional (educational), and public/recreation constitute the remainder of the proposed uses.

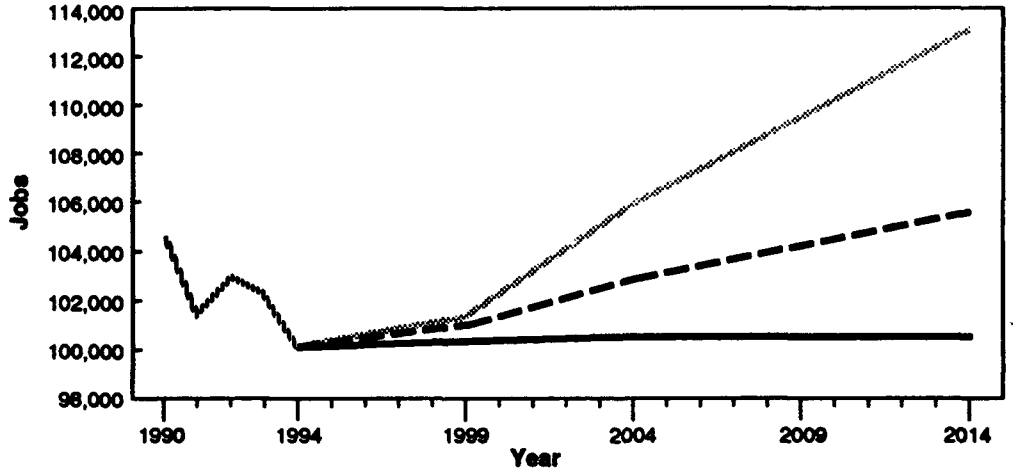
The net effects of reuse on the communities in the vicinity of Grissom AFB would vary with the reuse alternative implemented. The net effects are the total reuse direct and secondary employment and population, decreased by the OL (No-Action Alternative) and the 434th Wing employment and population. Figures S-1 and S-2 illustrate the projected profile of changes in future employment and population within the ROI for each of the reuse alternatives and the No-Action Alternative. Key findings of this study include the following:

ALTERNATIVE	1994 (a)	1999	2004	2014
Proposed Action	1,289	2,222	6,631	13,821
Joint Use Aviation	1,289	1,977	3,533	6,395

Total Employment On-Base (b)



Total Employment On-Base (b)



Total ROI Employment Including Reuse-Related Effects

EXPLANATION

- Preralignment
- Proposed Action
- Joint Use Aviation Alternative
- No-Action Alternative

(a) The 1994 values represent total base-related employment under the realignment baseline.
(b) Employment effects represent the change in employment relative to the No-Action Alternative.

Total employment includes both the existing military cantonment personnel and reuse-related effects of on-base development. Employment effects include both direct and secondary employment.

Reuse-Related Employment Effects

Figure S-1

Table 1.4-1. Land Use Acreage by Alternative

Land Use	Proposed Action	Military/Joint Use Aviation Alternative
Aviation Support	0	192
Industrial	774	108
Institutional (Educational)	23	23
Commercial	419	491
Residential	0	293
Public/Recreation	27	163
Vacant Land	27	0
Military Cantonment	1,452	1,452
Total	2,722	2,722

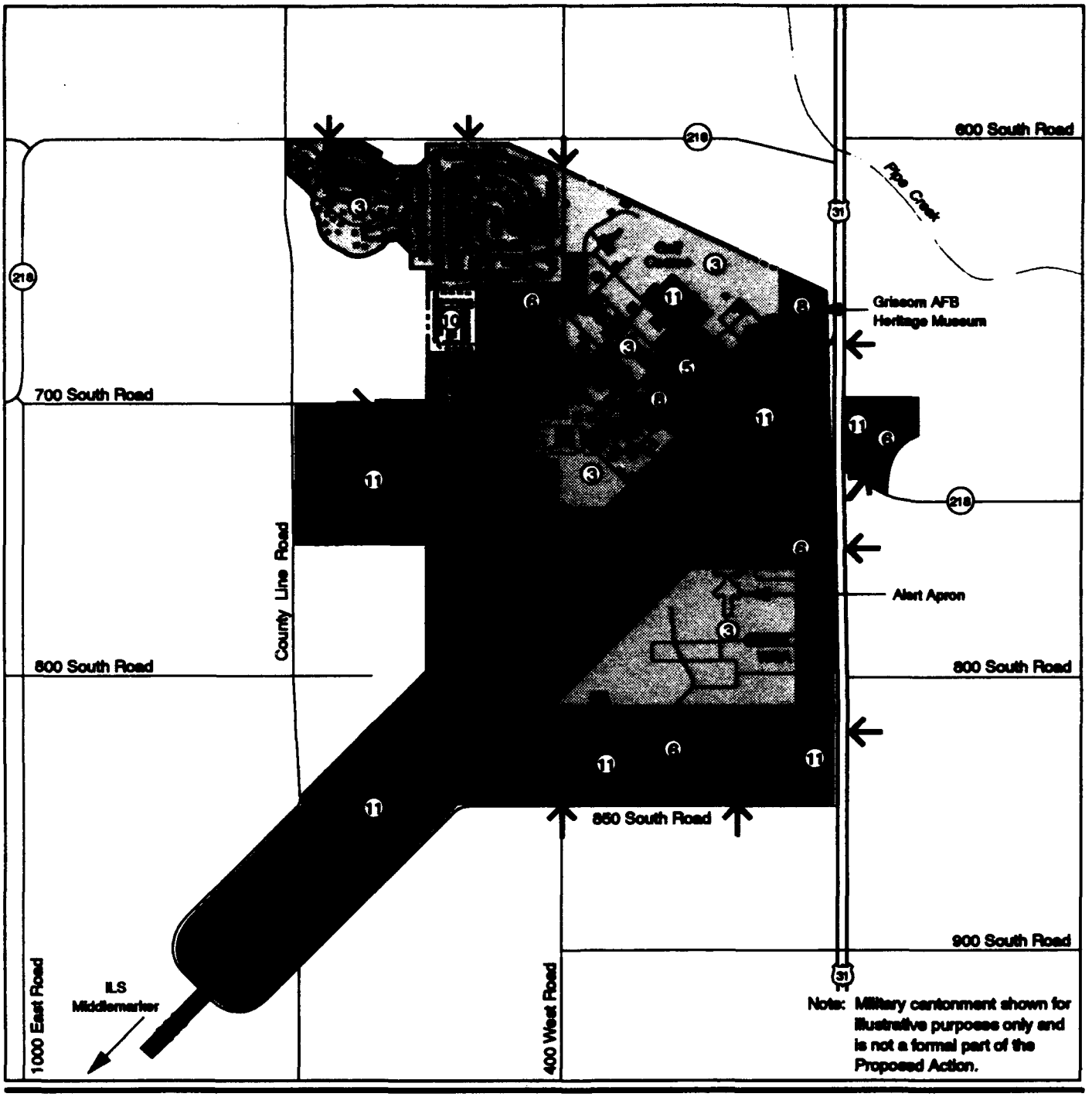
1.4.1 Proposed Action

The Proposed Action is a comprehensive reuse plan for Grissom AFB centered around the existing military use airfield with related civilian, industrial, and commercial uses, totaling 2,645 acres. The remaining 77 acres on base include institutional (educational), public/recreation, and vacant land uses (Figure 1.4-1). Under the Proposed Action, the airfield and aviation support areas are classified as the military cantonment and the 434th Wing would continue aircraft operations. Operations associated with the 434th Wing and other transient aircraft are addressed under the military cantonment land use category.

Industrial. An industrial area of 774 acres, or approximately 28 percent of the base property, would occupy the residential area, golf course, the utility plants, and an area southeast of the military cantonment, including portions of the aircraft parking apron and WSA. Light industrial and assembly development would occur with some demolition. The WSA would be utilized for warehousing or agricultural storage. Heavy industrial and manufacturing operations would be developed on the residential area and would involve demolition of the residential housing units.

Development would be complete by 2014, with facilities being used during the first 10 years. New development would begin in 2004.

Institutional (Educational). The institutional land use area comprises 23 acres (1 percent of the base area) adjacent to the airfield's northeast clear zone (CZ). The former Wing Headquarters building would be used for



EXPLANATION

- ① Airfield *
- ② Aviation Support *
- ③ Industrial
- ④ Institutional (Medical) *
- ⑤ Institutional (Educational)
- ⑥ Commercial
- ⑦ Residential *
- ⑧ Public/Recreation
- ⑨ Agriculture *
- ⑩ Vacant Land
- ⑪ Military Cantonment
- Base Boundary
- Access Points

0 725 1450 2900 Feet

* Standard land use designation not applicable to this figure.

Proposed Action

Figure 1.4-1

classrooms and offices for 50 students. No building demolition is proposed for this land use and reuse would occur in the first 10 years.

Commercial. The commercial land use area comprises 419 acres, or 15 percent of the base area, and is divided into three parcels. A 36-acre parcel south of the base housing in the northwest portion of the base includes the child care center, theater, recreation center, commissary, base exchange, credit union, and a fast-food facility. The second parcel is a 366-acre area surrounding the Weapons Storage Area (WSA) on three sides and includes part of the alert apron. This area would include the development of new retail and office facilities and could include limited mixed uses such as residential, crafts industries, or light industrial with frontage on United States Highway (U.S.) 31. The outdoor small arms firing range in this area would be used as a commercial firing range. The remaining parcel includes 17 acres of the east side of U.S. 31. No building demolition is proposed and reuse would be complete by 2004. New retail development would occur after 1999 and development would be 70 percent complete by 2014.

Public/Recreation. The public/recreation land use area covers 27 acres, or 1 percent of the base area, and is located within two noncontiguous parcels on the main base. The first area, in the central portion of the base, includes the indoor swimming pool, bowling center, and gymnasium. The second area, north of the main base entrance, would continue to be used by the Grissom AFB Heritage Museum. Reuse of all recreation facilities would occur throughout the first 5 years.

Vacant Land. In the southern portion of family housing, 27 acres, or approximately 1 percent of the base acreage, would be converted to open space, with residential units demolished during the first 5 years after base realignment.

Military Cantonment. The decision to realign the 434th Wing at Grissom AFB has already been made under DBCRA. The military cantonment discussion is provided only as a reference to assess all activities that would take place within the base boundary. The military cantonment activities are not part of the reuse plan for Grissom AFB.

The military cantonment retained by the 434th Wing would consist of 12 areas totaling 1,452 acres, or approximately 54 percent of the base area. The first area, in the central and southwestern portion of the base, includes the airfield, the western portion of the aircraft parking apron, and associated airfield facilities. Five areas, in the north-central portion of the base, include six dormitories, dining hall, and the fire station. Four military cantonment areas, located southeast of the airfield, include the control tower. Two other areas include the instrument landing system (ILS) middle marker, approximately 4,000 feet from the southwest end of the airfield, and an

area east of U.S. 31 that includes a portion of the airfield CZ. If facilities within the military cantonment are not required by the 434th Wing, civilian reuse compatible with military operations may be allowed by the AFRES. Within the military cantonment, the 434th Wing may have various construction projects that would probably occur within the first 2 years following base realignment. The U.S. Army Reserves (199th Supply Command and 70th Division) would employ 7 full-time personnel and 300 reservists. The U.S. Army Reserve effects have been included within the 434th Wing effects.

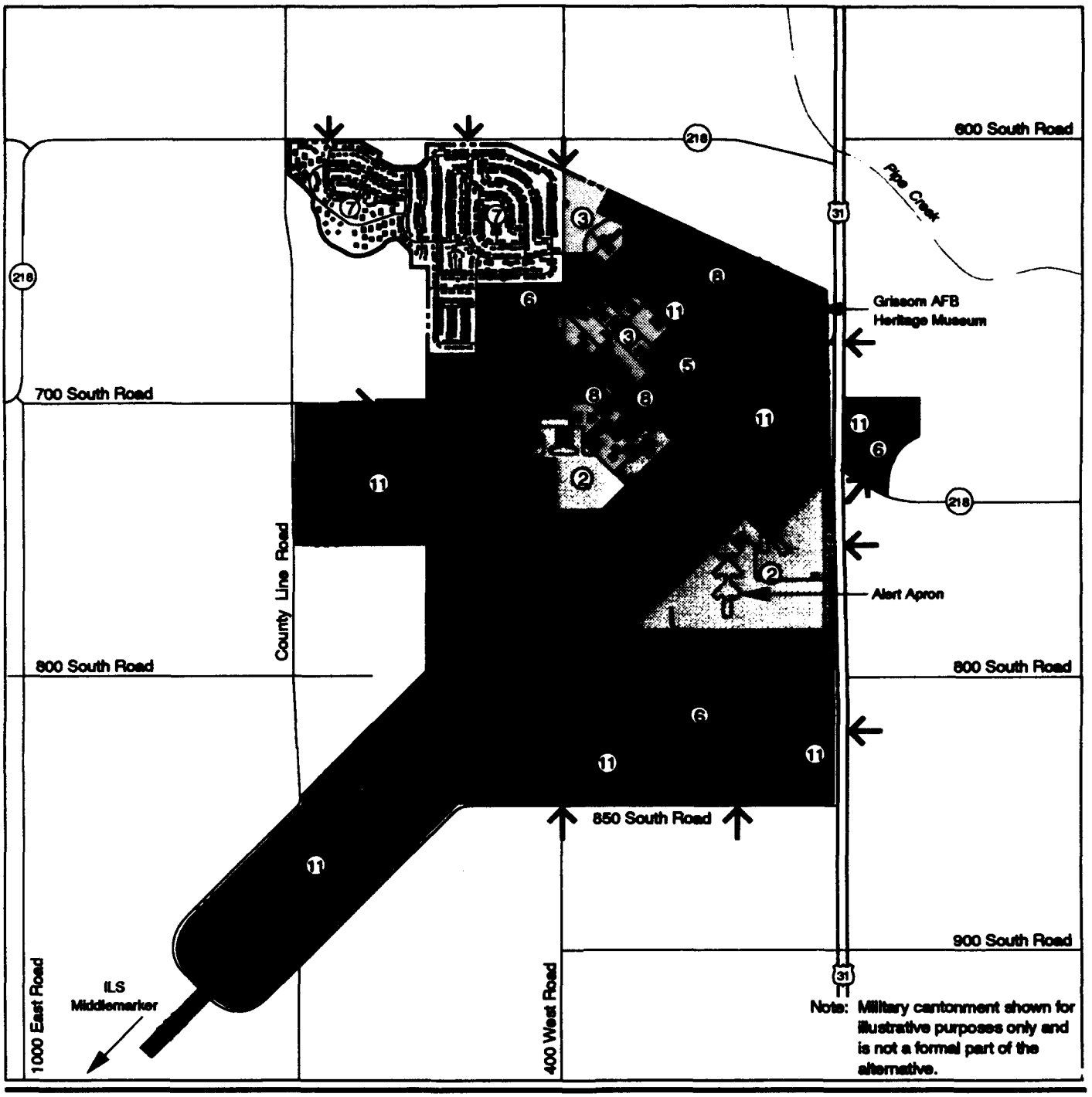
1.4.2 Military/Joint Use Aviation Alternative

The Military/Joint Use Aviation Alternative (Figure 1.4-2) provides for the joint use of the Grissom AFB airfield by the 434th Wing and a variety of civilian aviation uses. Civilian aviation on property to be excessed would include general aviation, air cargo, airline flight training, and an aviation school. Civilian land uses of this alternative include aviation support, industrial, institutional (educational), commercial, residential, and public/recreation. The total acreage for each land use category is shown in Table 1.4-1.

Under the Military/Joint Use Aviation Alternative there is no airfield land use category, although there would be both civilian and military aircraft operations. All airfield operations including civilian operations are addressed under the military cantonment land use category. However, a civil airport authority could be established to operate the airport with the 434th Wing as a tenant. The layout of the airfield would be the same as the Proposed Action except a new taxiway would be constructed to allow greater airfield access. Under this alternative, similar to the Proposed Action, the military cantonment is provided as a reference and is not part of the property to be excessed.

Aviation Support. The aviation support land use category includes 192 acres, or approximately 7 percent of the base area. A 57-acre area in the center of the aircraft parking apron contains a hangar, aviation equipment maintenance shops, administrative offices, base operations facilities, and warehouses. Approximately 135 acres north of the WSA would be available for redevelopment. The proposed reuse activities and functions within this land use area include civilian aviation support, a Fixed Base Operator to support general aviation aircraft, cargo operations, and airline flight training. Development of this land use would occur throughout the 20-year analysis period.

Industrial. The industrial land use category comprises two parcels totaling 108 acres, or approximately 4 percent of the base acreage, and are located in the northeast portion of the military cantonment. The planned uses are light industry, cottage industries, and assembly activity. The two-story



EXPLANATION

- ① Airfield *
- ② Aviation Support
- ③ Industrial
- ④ Institutional (Medical) *
- ⑤ Institutional (Educational)
- ⑥ Commercial
- ⑦ Residential
- ⑧ Public/Recreation
- ⑨ Agriculture *
- ⑩ Vacant Land *
- ⑪ Military Cantonment
- Base Boundary
- Access Points

0 725 1450 2900 Feet

* Standard land use designation not applicable to this figure.

Joint Use Aviation Alternative

Figure 1.4-2

dormitories and the base clinic would be demolished in order to accommodate new industrial development. Development would begin in 1994 and be 65 percent complete by 2014.

Institutional (Educational). A 23-acre area, or 1 percent of the base acreage, located east of the military cantonment, would be used for flight training. Most of the facilities would be demolished between 1994 and 2004.

Commercial. The commercial land use category includes 491 acres, or 18 percent of the base acreage, and is located in three areas. The first is the 43-acre parcel south of the base housing that includes the child care center, theater, recreation center, commissary, base exchange, credit union, and a fast-food facility. Demolition of the visiting officers' quarters, officers' quarters, and a family housing building is proposed for implementation of this land use. Another 431-acre area, located at the southern end of the base adjacent to 850 South Road, includes the WSA and a former landfill. This site would be developed for retail and office uses and could include mixed uses such as craft industries, residential, or light industrial. The WSA storage facilities would be demolished. A third parcel of 17 acres is located on the east side of U.S. 31. Reuse of the retained facilities would continue throughout the 20-year period; new development would start after 2004 and be 12 percent complete by 2014.

Residential. The residential land use category comprises 293 acres, which is approximately 11 percent of the base residential area. To reduce housing density, demolition is proposed for 275 of the 1,124 units. Reuse of approximately 20 percent of the retained units would start in 2004 and continue through 2014.

Public/Recreation. The public/recreation land use category includes 163 acres, or approximately 6 percent of the base area. Reuse facilities include the Grissom AFB Heritage Museum, golf course, indoor swimming pool, gymnasium, and bowling center. Demolition of the hobby shop and the temporary education facilities adjacent to the golf course is proposed under this land use. Reuse would occur between 1994 and 1999.

Military Cantonment. This reuse would be the same as described under the Proposed Action, except the airfield would be jointly used by the 434th Wing and civilian aviation. The airfield would continue to be owned by the Air Force and operated by the 434th Wing in accordance with Air Force regulations. Alternatively, a civil airport authority could be established to operate the airport with the 434th Wing as a tenant. This alternative is feasible only on the assumption that the Peru Municipal Airport would be closed and all of its aviation activity would be relocated to Grissom AFB. Civilian airfield use would include aviation maintenance, airline flight crew training utilizing aircraft serviced at airports within the region, aviation school, general aviation, and air cargo uses.

The following airfield improvements would be required for precision/ non-precision runway use and would be constructed in accordance with FAA and military advisory circulars, standards, and recommendations:

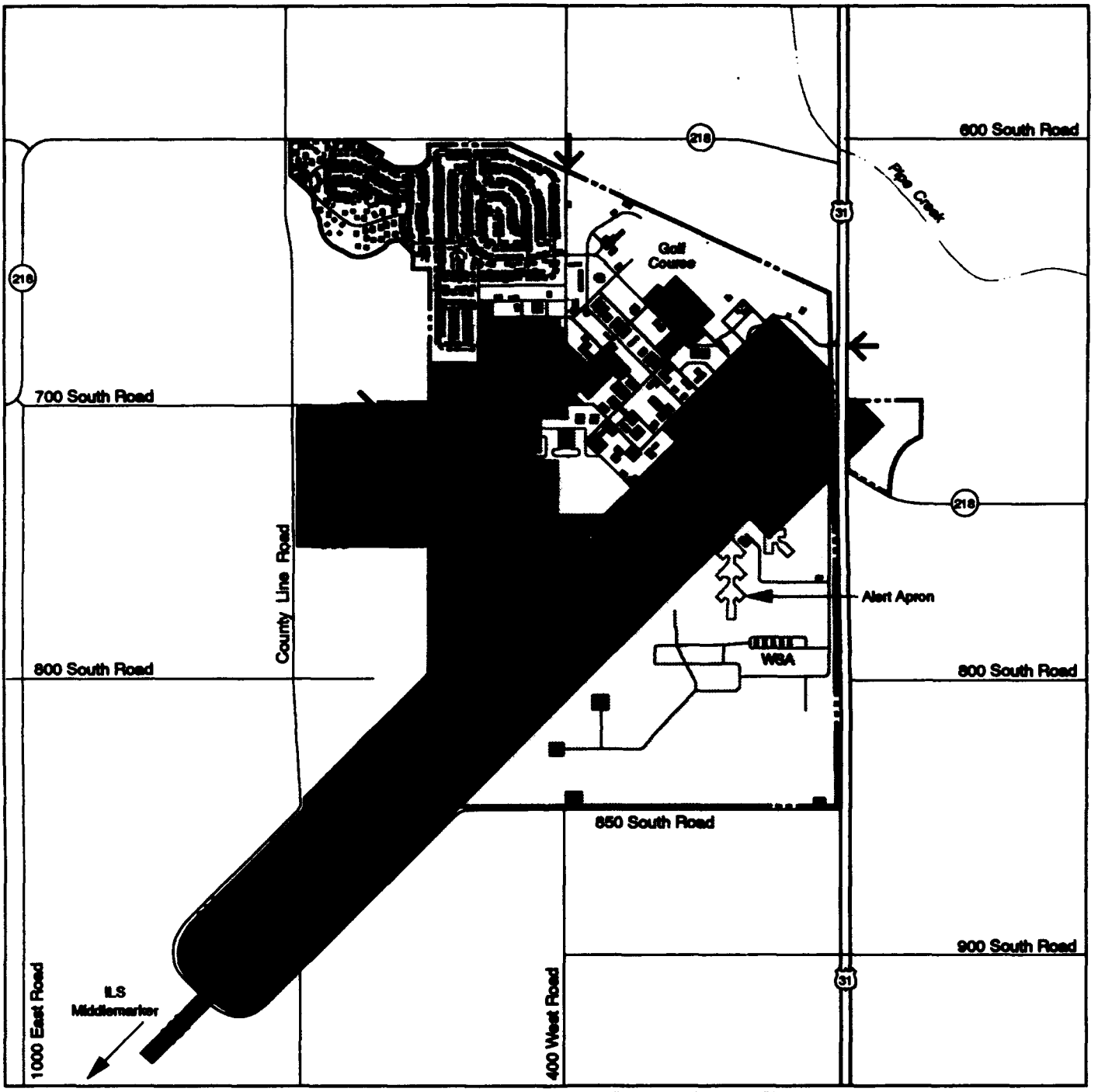
- Install new runway and taxiway guidance signs
- Install a Precision Approach Path Indicator System for Runway 5/23
- Upgrade the ILS approach to Runway 5/23 to meet FAA standards
- Establish non-precision approaches to Runway 5/23
- Construct a new partial parallel taxiway from Taxiway 3 to the north end of Runway 5/23.

Runway 5/23 at Grissom AFB is able to accommodate up to 230,000 operations (an operation is defined as either a landing or a takeoff) per year. The 12,500-foot by 200-foot runway would allow operation of any civilian aircraft at almost any combination of payload and range. Approximately 60 percent of all takeoffs are expected to occur on Runway 23 toward the southwest under this alternative.

1.4.3 No-Action Alternative

Under the No-Action Alternative, the 434th Wing would continue to operate within the military cantonment and airfield (Figure 1.4-3). The remainder of the base would be put to no further use and placed under long-term caretaker status. The military land use would be the same as the Proposed Action and the Military/Joint Use Aviation Alternative.

The remaining portions of the base would be preserved, i.e., placed in a condition intended to limit deterioration and ensure public safety. An Air Force Base Disposal Agency Operating Location (OL) made up of 10 Air Force and 40 contractor personnel would be provided to ensure base security and maintain the grounds and physical assets, including the utilities and structures. The responsibilities of this team include coordinating post-closure activities, establishing a caretaker force to maintain Air Force properties after closure, and serving as the Air Force local liaison supporting community reuse. For the purposes of analysis, it was assumed that the caretaker team would comprise approximately 50 people at the time of closure. In addition, 928 direct employees would be associated with the cantonment activities.



EXPLANATION

- Caretaker Status
- Military Cantonment
- Base Boundary
- Access Points

No-Action Alternative

Figure 1.4-3

The future levels of maintenance would be as follows:

- Maintain structures in "mothballed" condition to limit deterioration
- Isolate or deactivate utility distribution lines on base
- Provide limited maintenance of roads to ensure access
- Provide limited grounds maintenance of open areas to eliminate fire, health, and safety hazards
- Maintain golf course in such a manner as to facilitate economical resumption of use.

1.4.4 Other Land Use Concepts

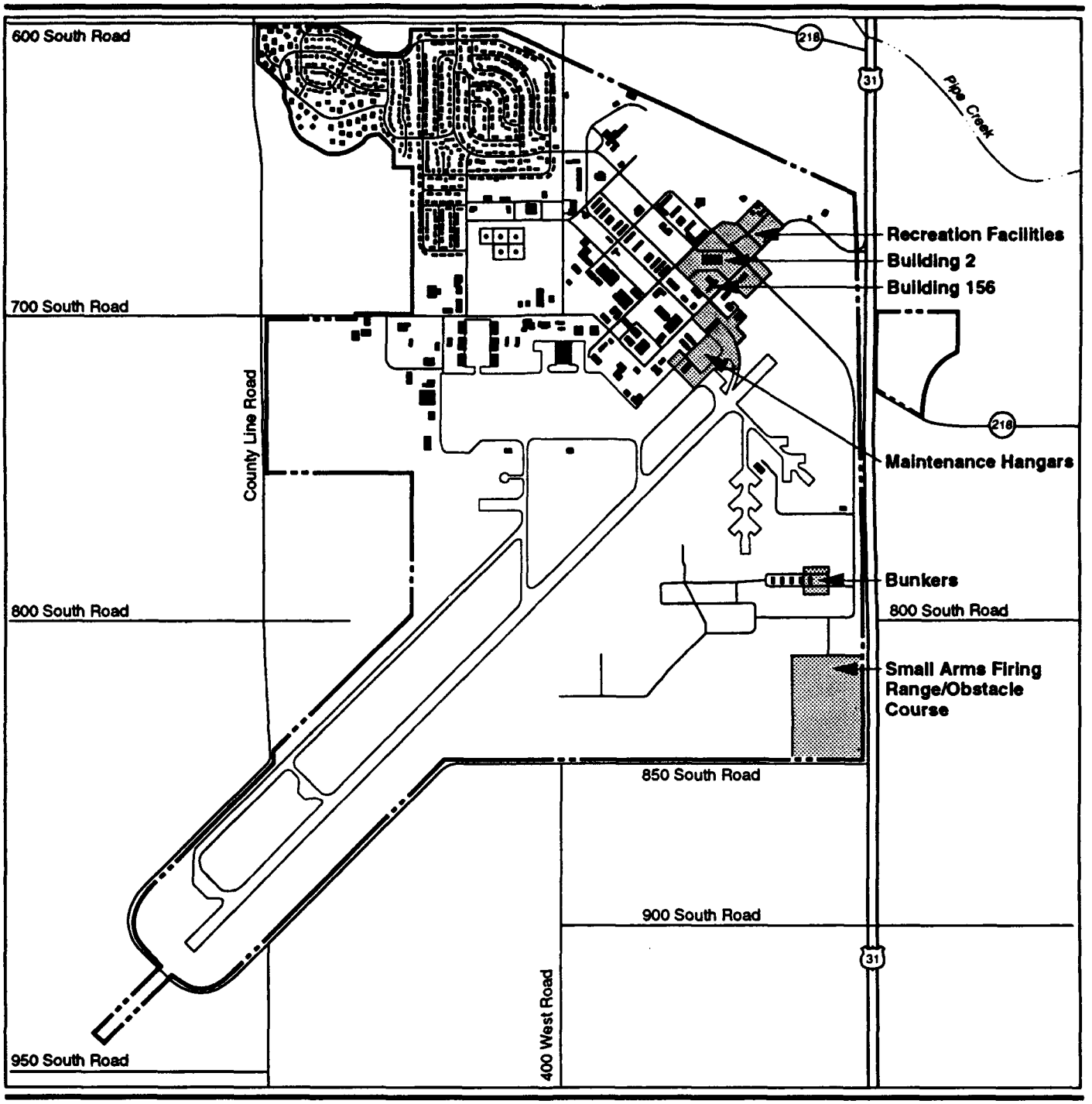
This section describes proposed federal property transfers and conveyances to nonfederal agencies. These property transfers and conveyances are not part of any integrated reuse option.

In compliance with the Federal Property and Administrative Services Action of 1949, the Air Force solicited proposals from other federal agencies regarding their interest in acquiring any lands or facilities identified for disposal at *Grissom* AFB.

One nonfederal proposal has been received by the Air Force, which has not been captured within the analysis of the reuse alternatives. The state of Indiana has proposed a Public Safety Training Institute for Grissom AFB. This section describes the independent land use proposal, which could be implemented individually or in combination with any of the reuse alternatives (Figure 1.4-4).

State of Indiana Public Safety Training Institute. The state of Indiana has an interest in 120 acres, or 4 percent of the base area, for safety training. The safety training program activities include classroom instruction and simulated or live emergency training such as hazardous material, building inspections, arson investigation, search and rescue, and fire training activities. Activities would take place 7 days per week and would involve 200 to 500 trainees and up to 75 permanent and part-time instructors.

Safety training support facilities include administrative offices, classrooms, academic dormitories for trainees, and staff residences. Safety training facilities would be located in three areas. Outdoor training activities would occur on a 56-acre parcel on the southeast corner of the base that includes a new 200-foot diameter fire training facility and a new 50-foot by 50-foot burn tower approximately four stories tall. The fire training facility would be



EXPLANATION

Public Safety Training Institute

Base Boundary

0 650 1300 2600 Feet

Other Land Use Concepts

Figure 1.4-4

constructed with a rubber bladder and a fuel/water separator, which would separate and recycle the fuel and water for reuse in future burn cycles. The Grissom AFB fire training facilities located in the south-central portion of the base would be used until new facilities are built. Within this area, the obstacle/confidence course would be utilized for physical training for law enforcement officers, and the outdoor small arms firing range would be used for fire arms training. The converted maintenance hangars located at the northeast end of the runway, along with adjacent aircraft aprons, are proposed for reuse as emergency driver training and equipment storage facilities. The use of these facilities would be scheduled so as not to conflict with aviation flight activities.

A variety of support facilities to be reused, located on th[illegible] side of the central portion of the base, include Building 2 and the ba[illegible]upply administration office, which are proposed for use as a classroom, administrative offices, and training laboratories. To provide for outdoor recreation, the tennis courts, softball field, and picnic area located in this area would be used. Living quarters for trainees and an auditorium would be provided in Building 156. If available, four- or five-family housing units would be moved to the southeast corner of the base to provide simulated training facilities. In addition, two bunkers within the WSA would be used for storage.

2.0 COMMUNITY SETTING AND REGION OF INFLUENCE

This chapter describes the community setting in which Grissom AFB is located. In addition, the ROIs for the various issues (economic activity, population, housing, public services, public finance, transportation, and utilities) are also identified.

2.1 COMMUNITY SETTING

Military use of the site now known as Grissom AFB began in July 1942 when it was used as a Navy flight training center during World War II. At that time, the installation was called the Bunker Hill Naval Air Station.

In June 1954, the facility became Bunker Hill AFB, a Tactical Air Command base, and became a Strategic Air Command base in May 1957. In May 1968, the base was renamed for Lt. Col. Virgil I. "Gus" Grissom, who was killed in January 1967 at Cape Kennedy (U.S. Air Force, 1992c). As of June 1992, Grissom AFB became an Air Mobility Command Base.

Grissom AFB, which contains 2,722 acres, is located in Miami County, Cass County, and the town of Bunker Hill in north-central Indiana, approximately 65 miles north of Indianapolis and 115 miles southeast of Chicago, Illinois. The base is located about 6 miles southwest of the city of Peru, and about 14 miles north of the city of Kokomo (Figure 2.1-1).

Grissom AFB adjoins U.S. Highway 31 (U.S. 31) approximately 6 miles south of its intersection with U.S. 24. U.S. 31 is the main highway running between Indianapolis and South Bend, Indiana. The area has rail freight service but no rail passenger service. The closest commercial airport is in Indianapolis, with municipal airports located in Kokomo and Peru.

Miami County and surrounding areas offer fishing, hunting, boating, camping, and other recreational opportunities. State parks and waterways in the region provide natural attractions. Mississinewa Lake and Miami, Red Bridge, and Frances Slocum State Recreation Areas are located within 15 miles of the base.

Manufacturing provides more regional jobs than any other major industrial sector, followed by the services, retail trade, and government sectors. Electronics and automotive products manufacturers are the largest employers in the area. While agriculture is not the dominant industrial sector within the area, it is an important contributor to the economy and lifestyle. Grissom AFB itself supported approximately 3,527 active duty military and civilian personnel in 1990. Since 1980, employment growth in the area has

functions (Circuit and Superior courts); maintaining public records and recording land transactions; and countywide health and social services. In 1990, the county employed approximately 158 full- and part-time personnel (140 full-time equivalents [FTE], excluding seven sworn sheriff personnel analyzed separately). These staff levels result in an overall per capita-generated level of service of 4.3 FTE personnel per 1,000 population for the 32,897 persons living off base (population living in base housing is served by the base), or an area-generated level of service of about 2.4 square miles per FTE. Of the county's various departments, the County Jail, the Circuit and Superior Courts, and County Roads Department are the largest employers (Miami County, 1991).

Town of Bunker Hill

The town of Bunker Hill was incorporated in 1882. The Charter for the town of Bunker Hill was approved by the County Board of Commissioners, granting the town council fundamental powers as the town's legislative and executive body. Bunker Hill has a Town Council form of government. The council members are elected to four-year terms, and one member of the council serves as president. The corporate boundaries of the town are 0.3 square mile. Local government services include public safety, water and wastewater, building inspections, and general administration. In 1990, the town employed 13 full-time and part-time personnel (11 FTE excluding the town marshal, analyzed separately) representing a level of service of 10.9 FTE personnel per 1,000 population for the 1,010 persons in the town, or an area-generated level of service of 0.03 square mile per FTE (Davis, 1992).

City of Peru

Peru, incorporated in 1842, operates with a Mayor-Council form of government. The Mayor and seven council members are elected at large for four-year terms. The city provides general administration and planning, parks and recreation, community services, public works, and public safety services. The city employed approximately 145 full-time and part-time workers (127 FTE excluding 26 sworn police and 31 fire fighters analyzed separately) in 1990 and maintains a level of service of 9.9 FTE personnel per 1,000 population for the 12,843 persons in the city (Black, 1992).

Howard County

Howard County was created in 1844 by the Indiana Legislature which granted the Board of Commissioners legislative and executive powers. Elected officials include three commissioners and seven members of the County Council, each serving a term of four years. Like other counties in the state, Howard County is responsible for tax assessment and collection, county law enforcement and legal functions, public records and county recorder. The county employed at total of 280 full- and part-time personnel (264 FTE, excluding 32 sworn sheriff personnel analyzed separately) in

jail facility is located in the city of Peru and has a capacity of 50 inmates. The jail facilities operated at capacity in 1992.

The sheriff's department maintains mutual aid agreements with the Peru Police Department and all town marshals within the county, including Bunker Hill. The sheriff's department also has mutual aid agreements with other sheriff's departments in the adjacent counties of Howard, Cass, Wabash, and Fulton. The department works cooperatively with Grissom AFB but has no formal mutual aid agreement with the base (Rich, 1992).

Bunker Hill Marshal's Office

In 1991, the town of Bunker Hill created a marshal's office that provides law enforcement and police protection within the corporate limits of the town. It is a single-person operation providing all police protection services. The marshal's office is located in the town hall. With a 1990 population of 1,010, the marshal provides a level of service ratio of 1.0, or an area-generated level of service ratio of 0.3 square mile per sworn officer for the 0.3 square-mile service area. The marshal has an agreement with Miami County Sheriff's Department for mutual aid in law enforcement.

Peru Police Department

The Peru Police Department provides law enforcement and police protection services within the city of Peru. The department operates out of a single police station located in the city. Staffing in 1990 included 26 sworn officers. The city's level of service for police protection is 2.0 sworn officers per 1,000 population for the 12,843 persons in the city. The department maintains nine marked and unmarked cars. The department has a holding cell which is used only for temporary detention. For incarceration and corrections services, the department relies on the county jail operated by the Miami County Sheriff's Department (Hahn, 1992).

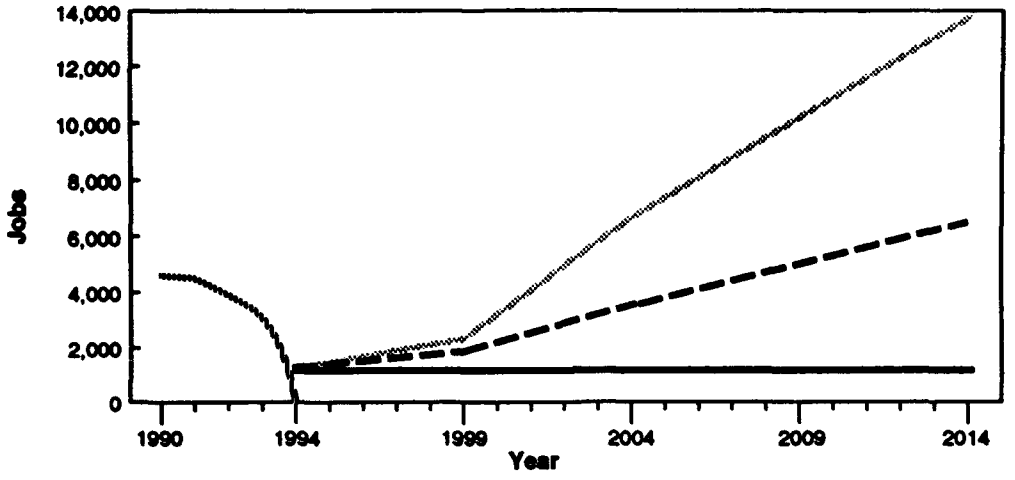
The Peru Police Department maintains mutual aid agreements with the Miami County Sheriff's Department, Indiana State Police, and other local municipal police departments (Hahn, 1992). While the department has maintained good working relations with the base security police, they do not have any formal aid agreements. Occasionally, the department has made use of the base K-9 Unit as part of this working relationship.

Howard County Sheriff's Department

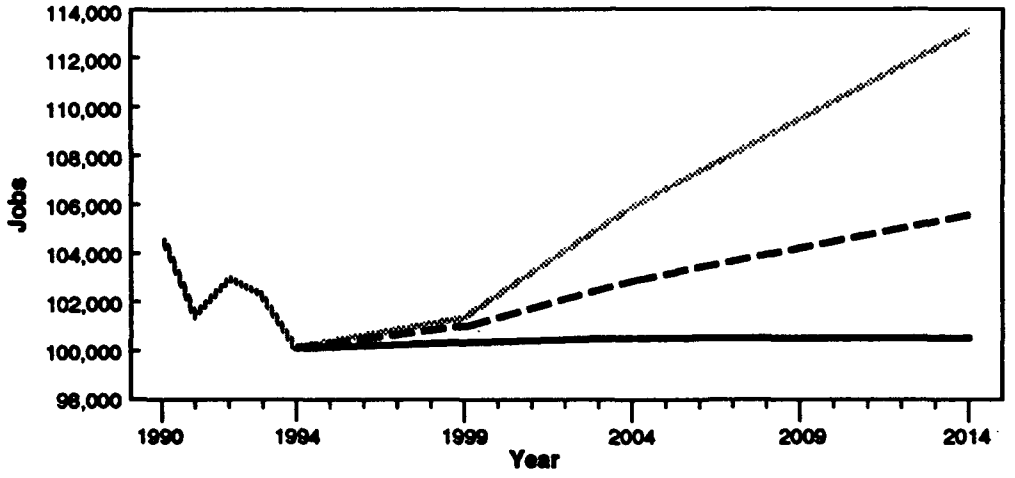
The Howard County Sheriff's Department provides law enforcement and police protection service for the entire county. Operating from a single station in the city of Kokomo, the department had approximately 32 sworn officers in 1990. This number of sworn personnel represents a level of service for police protection of 0.4 officers per 1,000 population for the 80,827 persons in the county. The department maintains a total of 33

ALTERNATIVE	1994 [a]	1999	2004	2014
Proposed Action	1,289	2,222	6,631	13,821
Joint Use Aviation	1,289	1,977	3,533	6,395

Total Employment On-Base (b)



Total Employment On-Base (b)



Total ROI Employment Including Reuse-Related Effects

EXPLANATION

- Preralignment
- Proposed Action
- Joint Use Aviation Alternative
- No-Action Alternative

(a) The 1994 values represent total base-related employment under the realignment baseline.
(b) Employment effects represent the change in employment relative to the No-Action Alternative.

Total employment includes both the existing military cantonment personnel and reuse-related effects of on-base development. Employment effects include both direct and secondary employment.

Reuse-Related Employment Effects

Figure 4.2-1

public service employees (e.g., municipal employees, school teaching staff, police officers, fire fighters, health care providers) required to serve the resulting in-migrating population. Staffing to population service ratios are used to compare effects between the alternatives only, and are not intended to suggest future staffing requirements.

Based on the expected growth pattern associated with reuse, public service effects were projected for those jurisdictions that would be most affected by changes in service demand. These jurisdictions include the Miami and Howard county governments; the Peru and Kokomo city governments; the Bunker Hill town government; the Maconaquah School Corporation; the Peru Community School Corporation; and the Kokomo-Center Township Consolidated School Corporation.

Other direct effects would focus on increased service demand resulting from additional area and infrastructure arising from the shift from the federal administration of Grissom AFB to local jurisdiction over the project area. Following disposition of any parcel to the private and non-DOD public sectors, Miami County would become responsible for serving the demand for municipal services, police protection, fire protection, and health care over the base area. Also, local service providers would lose Air Force support in the form of aid agreements (e.g., for fire protection). The Proposed Action would have the greatest effect on local government services.

4.5.1 Local Government

Potential effects to local government structure and employment are examined for each alternative. The analysis considers project-related population in-migration and changes in service area infrastructure responsibility resulting under each alternative. Due to the magnitude of some effects of closure and reuse, level of service ratios may not adequately meet new service requirements. Changes in land area served and types of services to be provided were considered.

Area-Generated Employee Demand. The site is located primarily within the unincorporated portions of Miami County (2,526 acres), a small portion (179 acres) within Cass County, and the remainder (17 acres) within the town of Bunker Hill's jurisdiction. Administration of that portion of the site outside of the military cantonment within Miami County to be reused would become the responsibility of Miami County and Bunker Hill. Because Cass County's portion of the base will be retained by the federal government, no changes to public services would be required. Services, such as planning, public works, utilities, building code inspection and enforcement, recreation, and other social services may need to be expanded in Miami County and Bunker Hill for the additional area and infrastructure requirements. Increases in Miami County and Bunker Hill employment and facilities infrastructure may be required to serve this area, in addition to the calculated per capita increases regardless of changes in site-related population. Therefore, the

total local government employee demands would be the summation of per capita demands and area-generated demands.

With Grissom AFB closed and in caretaker status (the No-Action Alternative), OL activities and continued activities of the 434th Wing would not generate new demand for local government services. As a result, municipal staffing levels would not have to be increased for any of the local jurisdictions. Effects of each of the reuse alternatives are compared to these closure baseline conditions.

4.5.1.1 Proposed Action

Miami County. Based on per capita calculations, Miami County would experience the greatest increase in demand for government service in the region. Under the Proposed Action, Miami County would experience a population increase of 541 persons by 1999 and 8,068 persons by 2014, or approximately 59 percent of the total population change due to in-migration to the ROI in 2014. To maintain 1990 service levels of 4.3 FTE county employees per 1,000 persons living off base, increases in employment by the county for site-related activities would be 2 employees by 1999 and 35 by 2014 (Table 4.5-1). These increases in county employees by 2014 represent a 26 percent increase in staffing over closure baseline levels of 133 FTE employees.

Table 4.5-1. Government Employment Effects: Proposed Action

	1999	2004	2014
Miami County	2	14	35
Bunker Hill	0	2	6
Peru	2	13	33
Howard County	1	5	13
Kokomo	1	6	16
Total	6	40	103

Note: Effects (shown cumulatively) of migratory-related population changes on local government employment requirements, excluding teachers, police officers, and fire fighters, which are analyzed seperately. Area-generated employee demand is not included in this table.

Based on the 1990 area-generated level of service ratio of 2.4 square miles per employee, Miami County could require an increase of up to one employee, in addition to the calculated per capita increases, to serve the additional service area created by the development of 1,253 acres for which the county would be responsible for providing government services (excluding acreage in the military cantonment, assumed to be the responsibility of the 434th Wing).

Town of Bunker Hill. Bunker Hill would experience a population increase of 38 persons by 1999 and 569 persons by 2014, or about 4 percent of the total increase in population due to in-migration to the ROI. This would not generate a per capita increase in public service employment requirements by 1999; however, 6 additional employees would be required by 2014 in order to maintain the 1990 level of service of 10.9 FTE town employees per 1,000 persons (see Table 4.5-1). This is a 60 percent increase in staffing over closure baseline levels of 10 employees in 2014. The town would not require additional employees to serve the 17 acres of former base property.

City of Peru. In order to maintain the 1990 level of service of 9.9 FTE employees per 1,000 persons, municipal staffing would have to increase in Peru to accommodate an in-migrating population of 226 by 1999 and 3,363 by 2014. By 1999, the city would require 2 additional FTE employees and 33 by 2014 (see Table 4.5-1). By 2014, these additional employees would increase staffing by about 28 percent over the closure baseline level of 120 employees.

Howard County. By 1999, in-migration to Howard County would total 250 persons and 3,828 persons by 2014. Using a 1990 staffing level of 3.3 county FTE employees per 1,000 persons, 1 employee would have to be added under the Proposed Action in 1999 and 13 by 2014 to maintain the same service levels (see Table 4.5-1). By 2014, this alternative would increase county staff levels about 5 percent over the 261 employees remaining at closure.

City of Kokomo. To maintain the level of service at 6.9 FTE employees per 1,000 persons, 1 additional employee would be required in Kokomo by 1999 and 16 additional personnel by 2014, in order to meet increased service demands generated by an in-migrating population of 152 by 1999 and 2,315 by 2014 (see Table 4.5-1). Compared to a closure level of 308 employees, the Proposed Action would generate about a 5 percent increase in city staff levels by 2014.

4.5.1.2 Military/Joint Use Aviation Alternative

Miami County. Under the Military/Joint Use Aviation Alternative, Miami County would experience an increase in population due to in-migration of 454 persons by 1999 and 4,112 by 2014. With approximately 60 percent of the total population increase in-migrating to the ROI, Miami County would have the greatest increase in demand for government services. County employment related to activities at the project site would have to increase by 2 employees in 1999 and 18 in 2014 in order to maintain 1990 service levels of 4.3 county employees per 1,000 persons living off base (Table 4.5-2). Increases in staffing levels over closure baseline conditions (133 FTE employees) under this alternative would be about 14 percent by 2014.

Table 4.5-2. Government Employment Effects: Military/Joint Use Aviation Alternative

	1999	2004	2014
Miami County	2	7	18
Bunker Hill	0	1	3
Peru	2	7	17
Howard County	1	2	6
Kokomo	1	3	8
Total	6	20	52

Note: Effects (shown cumulatively) of migratory-related population changes on local government employment requirements, excluding teachers, police officers, and fire fighters, which are analyzed seperately. Area generated employee demand is not included in this table.

Based on the 1990 service area per government employee levels (2.4 square miles per employee), the county could require up to one additional employee to serve the additional 1,253 serviceable acres, excluding the military cantonment assumed to be the responsibility of the 434th Wing.

Town of Bunker Hill. The Military/Joint Use Aviation Alternative would also increase public service demand in Bunker Hill based on population in-migration of 32 persons in 1999 and 292 persons in 2014. This would not require an increase in town staffing levels by 1999; however, 3 additional employees would be required by 2014 to maintain the 1990 municipal level of services of 10.9 FTE employees per 1,000 persons (see Table 4.5-2). By 2014, potential increases in town staff levels would represent a 30 percent increase over closure baseline staff levels of 10 FTE employees. The town would not require additional employees to serve the 17 acres of former base property.

City of Peru. Municipal staffing for Peru would increase under this alternative to maintain a level of service of 9.9 FTE employees per 1,000 persons, and accommodate increased service demands from in-migration of 189 persons by 1999 and 1,715 persons by 2014. By 1999, the city would require 2 additional employees and a total of 17 by 2014 (see Table 4.5-2). These additional city employees would increase closure baseline staff levels of 120 employees by about 14 percent by 2014.

Howard County. By 1999, in-migration into Howard County would total 209 persons, increasing to 1,861 persons by 2014. Using a 1990 staffing level of 3.3 county FTE employees per 1,000 persons, 1 employee would have to be added under the Military/Joint Use Aviation Alternative in 1999, increasing to 6 in 2014 to maintain the same service levels (see Table 4.5-2). By 2014, this alternative would increase county staff levels by about 2 percent over the 261 employees projected at closure.

City of Kokomo. To maintain the level of service at 6.9 FTE employees per 1,000 persons, 1 additional employee would be required in Kokomo by

Kokomo-Center Township Consolidated School Corporation. Student enrollment in the Kokomo-Center Township Consolidated School Corporation is projected to increase by 21 in 1999 and 183 in 2014 (see Table 4.5-4). By 2014, the corporation would experience a 2.4 percent increase in enrollment, compared to the estimated enrollment at closure.

Associated increases in teaching staff would be 1 by 1999 and 10 by 2014 in order to maintain the 1990 student/teacher ratio. Adding 10 teachers by 2014 would increase teaching staff by 2.4 percent over the closure baseline level.

Colleges and Universities

Under the Military/Joint Use Aviation Alternative, 24 acres of base property would be reused for educational purposes, which is similar to the Proposed Action's designation of 23 acres for educational use. Among the educational services to be provided under this alternative would be aviation training.

4.5.2.3 No-Action Alternative. Public education effects of the No-Action Alternative are the same as those described in Section 3.5.2 as closure conditions.

4.5.3 Police Protection

Under each alternative, potential effects to police protection services are examined based on reuse-related population, increase in land area covered, types of services to be provided, and infrastructure. Due to the magnitude of some effects of closure and reuse, level of service ratios may not adequately meet new service requirements.

Area-Generated Police Demands. The portion of the site to be reused is located in Miami County and the town of Bunker Hill; therefore, police protection of the site would become the responsibility of the Miami County Sheriff's Department and the Bunker Hill Marshal's office. Based on the 1990 level of service ratio of 48.6 square miles per sworn officer and 0.3 square miles per sworn officer, the Miami County Sheriff's Department and the Bunker Hill Marshal's office would not require any additional officers to serve the 1,253-acre site and the 17-acre site under the Proposed Action and the Military/Joint Use Aviation Alternative.

Under closure baseline conditions with the base in caretaker status (No-Action Alternative) and continued activities of the 434th Wing, the fenced site outside the military cantonment would be patrolled by an OL security contractor. Law enforcement support would be provided by the Miami County Sheriff's Department, requiring no additional officers.

4.5.3.1 Proposed Action

Miami County Sheriff's Department. The Miami County Sheriff's Department is projected to require no additional sworn officers by 1999. Two additional officers would be required by 2014 to meet the additional service demand created by population in-migration of 541 by 1999 and 8,068 by 2014 associated with the Proposed Action (Table 4.5-5). This increase would maintain the 1990 level of service of 0.2 officers per 1,000 persons. The total demand of 2 officers by 2014 would increase staff levels by about 29 percent over closure levels of 7 officers. No additional officers are projected to be needed to cover the increased service area created by the Proposed Action. Mutual aid agreements would have to be reviewed with regard to the site.

Table 4.5-5. Police Protection Effects: Proposed Action

	1999	2004	2014
Miami County Sheriff's Dept.	0	1	2
Bunker Hill Marshal's Office	0	0	1
Peru Police Dept.	0	3	7
Howard County Sheriff's Dept.	0	1	2
Kokomo Police Dept.	0	2	5
Total	0	7	17

Note: Effects (shown cumulatively) of migratory-related population changes on number of sworn officers required. Does not include area-generated demands.

Bunker Hill Marshal's Office. The Bunker Hill Marshal's office is a single-person operation providing all police protection services for the town. In-migration of 569 persons by 2014 under the Proposed Action would require one additional sworn officer to maintain the level of service ratio of 1.0 officer per 1,000 population. No additional officers are projected to cover the increased service area. Mutual aid agreements would have to be reviewed with regard to the site.

Peru Police Department. Projected in-migrating population increases of 226 by 1999 and 3,363 by 2014 in the city of Peru would require the Peru Police Department to increase staff levels by 7 sworn officers (see Table 4.5-5). This would retain the 1990 service level of 2.0 sworn officers per 1,000 persons. This increase in police officers would represent about a 28 percent increase over the closure baseline level of 25 officers in 2014.

Howard County Sheriff's Department. Under the Proposed Action, the Howard County Sheriff's Department is projected to require no additional sworn officers to meet increased demand due to population in-migration until 2004, when 1 additional officer would be required. In-migration of 3,828 people by 2014 could require 2 additional officers to maintain the 1990 service level of 0.4 officers per 1,000 population in the county and would

increase staff levels by about 6 percent over the closure baseline level of 32 officers.

Kokomo Police Department. The city of Kokomo is projected to experience population in-migration of 152 by 1999 and 2,315 by 2014 associated with the development of the Proposed Action. Resulting increases in demand for police protection services would require the Kokomo Police Department to increase staffing by a total of 5 officers by 2014, or about 5 percent over the 103 sworn officers remaining after closure. This increase would maintain the 1990 level of service of 2.3 sworn officers per 1,000 persons in the city.

4.5.3.2 Military/Joint Use Aviation Alternative

Miami County Sheriff's Department. Under the Military/Joint Use Aviation Alternative, the Miami County Sheriff's Department is projected to require no additional sworn officers until 2014, when one officer would be required to meet the additional service demand created by population in-migration of 454 persons by 1999 and 4,112 by 2014 (Table 4.5-6). This increase would maintain the 1990 level of service of 0.2 officers per 1,000 persons. The total demand of one officer by 2014 would increase staff levels by about 14 percent over closure baseline levels of 7 officers. No additional officers are projected to be needed to cover the increased service area created by this alternative. Mutual aid agreements would have to be reviewed with regard to the site.

Table 4.5-6. Police Protection Effects: Military/Joint Use Aviation Alternative

	1999	2004	2014
Miami County Sheriff's Dept.	0	0	1
Bunker Hill Marshal's Office	0	0	0
Peru Police Dept.	0	1	3
Howard County Sheriff's Dept.	0	0	1
Kokomo Police Dept.	0	1	3
Total	0	2	8

Note: Effects (shown cumulatively) of migratory-related population changes on number of sworn officers required. Does not include area-generated demand.

Bunker Hill Marshal's Office. In-migration of 292 new residents by 2014 under the Military/Joint Use Aviation Alternative would not require an increase in staffing levels of the Bunker Hill Marshal's Office to maintain the level of service ratio of 1.0 officer per 1,000 population. No additional officers are projected to be needed to cover the increased service area. Mutual aid agreements would have to be reviewed with regard to the site.

Peru Police Department. Based on projected in-migrating population increases of 189 by 1999 and 1,715 by 2014 in the city of Peru, the Peru

Police Department would require staffing levels to increase by 1 sworn officer by 2004 and 3 sworn officers by 2014 (see Table 4.5-6). This would retain the 1990 service levels of 2.0 sworn officers per 1,000 persons. This increase in police officers would represent about a 12 percent increase over closure baseline levels of 25 officers in 2014.

Howard County Sheriff's Department. Under the Military/Joint Use Aviation Alternative, the Howard County Sheriff's Department is projected to require 1 additional sworn officer by 2014 in order to meet increased demand due to population in-migration of 1,861. The increase of 1 officer by 2014 would maintain the 1990 service level of 0.4 officers per 1,000 population in the county and would increase staff levels by approximately 3 percent over the closure baseline level of 32 officers.

Kokomo Police Department. The city of Kokomo is projected to experience population in-migration of 127 by 1999 and 1,131 by 2014 associated with the development of the Military/Joint Use Aviation Alternative. Resulting increases in demand for police protection services would require the Kokomo Police Department to increase staffing by a total of 3 officers by 2014, or about 3 percent over the 103 sworn officers remaining after closure. This increase would maintain the 1990 level of service of 2.3 sworn officers per 1,000 persons in the city.

4.5.3.3 No-Action Alternative. Police protection effects of the No-Action Alternative are the same as those described in Section 3.5.3 as closure conditions, and as highlighted in the introduction to Section 4.5.3.

4.5.4 Fire Protection

Under each alternative, potential effects to fire protection services are examined. The analysis considers reuse-related population, service areas, and infrastructure responsibility changes.

With Grissom AFB closed and in caretaker status and continued activities of the 434th Wing (No-Action Alternative), an OL fire protection team would operate at the site with assistance of the 434th Wing using the base fire fighting equipment. It is assumed that mutual aid supplemental fire protection support would be provided by the Pipe Creek Township Volunteer Fire Department, and would not require any additional fire fighters.

Area-Generated Fire Fighters. If Grissom AFB property is conveyed under the Proposed Action or the Military/Joint Use Aviation Alternative, responsibility for fire protection of the site would be primarily assumed by the Pipe Creek Township Volunteer Fire Department. The department service area would increase by 1,270 acres under both the Proposed Action and Military/Joint Use Aviation Alternative. The Pipe Creek Township Volunteer Fire Department could require 1 additional fire fighter, in addition

approximately 65 miles away (Hawley Army Community Hospital in Indianapolis), the region's 2,323 military retirees and their dependents would likely rely on the five acute care hospitals and the various medical personnel in Miami, Howard, Cass, and Wabash counties for health care services. Veterans residing in the ROI would have access to the VA hospital in Marion, Indiana (30 miles to the east) for benefit services.

Grissom AFB has already initiated health care arrangements for retirees and dependents following closure. Patient needs were matched with local civilian resources, and retirees were sent a list of the appropriate primary care physicians who participate in the CHAMPUS program in their area. These are the closure conditions to which each of the reuse alternatives is compared. No reuse of on-base medical facilities is planned under the Proposed Action or the Military/Joint Use Aviation Alternative.

4.5.5.1 Proposed Action. Through the CHAMPUS program, military retirees and their dependents would have access to the health care services and medical facilities available in the community. The community health care services at closure could sufficiently meet the health care needs of retirees and dependents as well as the in-migrating population associated with the Proposed Action.

4.5.5.2 Military/Joint Use Aviation Alternative. Implementation of the Military/Joint Use Aviation Alternative would have the same health care effects as the Proposed Action.

4.5.5.3 No-Action Alternative. Health care effects of the No-Action Alternative would be those described in Section 3.5.5 as closure conditions, and as highlighted in the introduction to Section 4.5.5.

4.6 PUBLIC FINANCE

Fiscal effects to potentially affected jurisdictions are presented in this section. The results represent the net effects of reuse after accounting for the out-migration of the direct and secondary military and civilian jobs associated with phasing out the Grissom AFB mission.

Assumptions. Conversion of portions of the base property to private ownership would directly affect property tax revenues in the jurisdictions within which the portions to be converted to private ownership are located (i.e., Miami County, the town of Bunker Hill, and the Maconaquah School Corporation). Indirect property tax effects may be experienced in other jurisdictions due to the effects on the local tax base of population in-migration over and above the expected population out-migration due to closure and these effects are noted.

The effects of Section 3 transition entitlement funding on affected school districts have not been included in this analysis. The action of P.L. 81-874 provides for continued funding of federal impact aid to a local school district after the district becomes ineligible under general program guidelines. This continued funding, subject to congressional appropriation, would be in decreasing amounts for a period of three years, lessening the effects of closure on the school district.

The disposal and reuse process is explained in Chapter 1 of the Environmental Impact Study for Disposal and Reuse of Grissom AFB, Indiana. Key assumptions regarding jurisdictional control of base property under each reuse alternative (the portions of the base which are proposed for private ownership and the portions which are proposed for public ownership) are presented at the beginning of each of these sections. For the portions of the base proposed for public ownership and which are not proposed to be transferred as a public conveyance, several methods for financing the purchase of this property (as well as the financing of any infrastructure improvements which may be necessary for property transferred as a public conveyance or purchased outright by a public agency) are available. One method could be the declaration of the base as a redevelopment area. Purchase of existing improvements and development of additional improvements, as required, could be financed by the issuance of bonds. These bonds would be repaid by the expected incremental increase in taxes on privately owned property from the expected rise in valuations due to the improvements made by the redevelopment agency in the area.

For purposes of this analysis, financing for the purchase of property and for the development of improvements, as required, is assumed to be direct grants-in-aid from existing state and federal grant programs, revenue bonds, reserves, and/or other in-place aid programs.

4.6.1 Proposed Action

Key assumptions regarding future jurisdictional control of base property under this alternative, which influence the fiscal assessments, are presented below:

- The approximately 774 acres designated for industrial use and the 419 acres designated for commercial use would be sold to private interests and thus be subject to local property taxes.

- The 23 acres designated for institutional (educational) use are assumed to be sold to private interests and thus would be subject to local property taxes.

- The 27-acre area designated for public/recreation and the 27 acres designated as vacant land use would remain in public ownership and would not be subject to local property taxes.

- The 1,452 acres designated for military uses would remain as federal property and would not be subject to local property taxes.

4.6.1.1 Miami County. Fiscal effects of the Proposed Action on Miami County indicate an improvement over the post-closure scenario through FY 2014 (Figure 4.6-1).

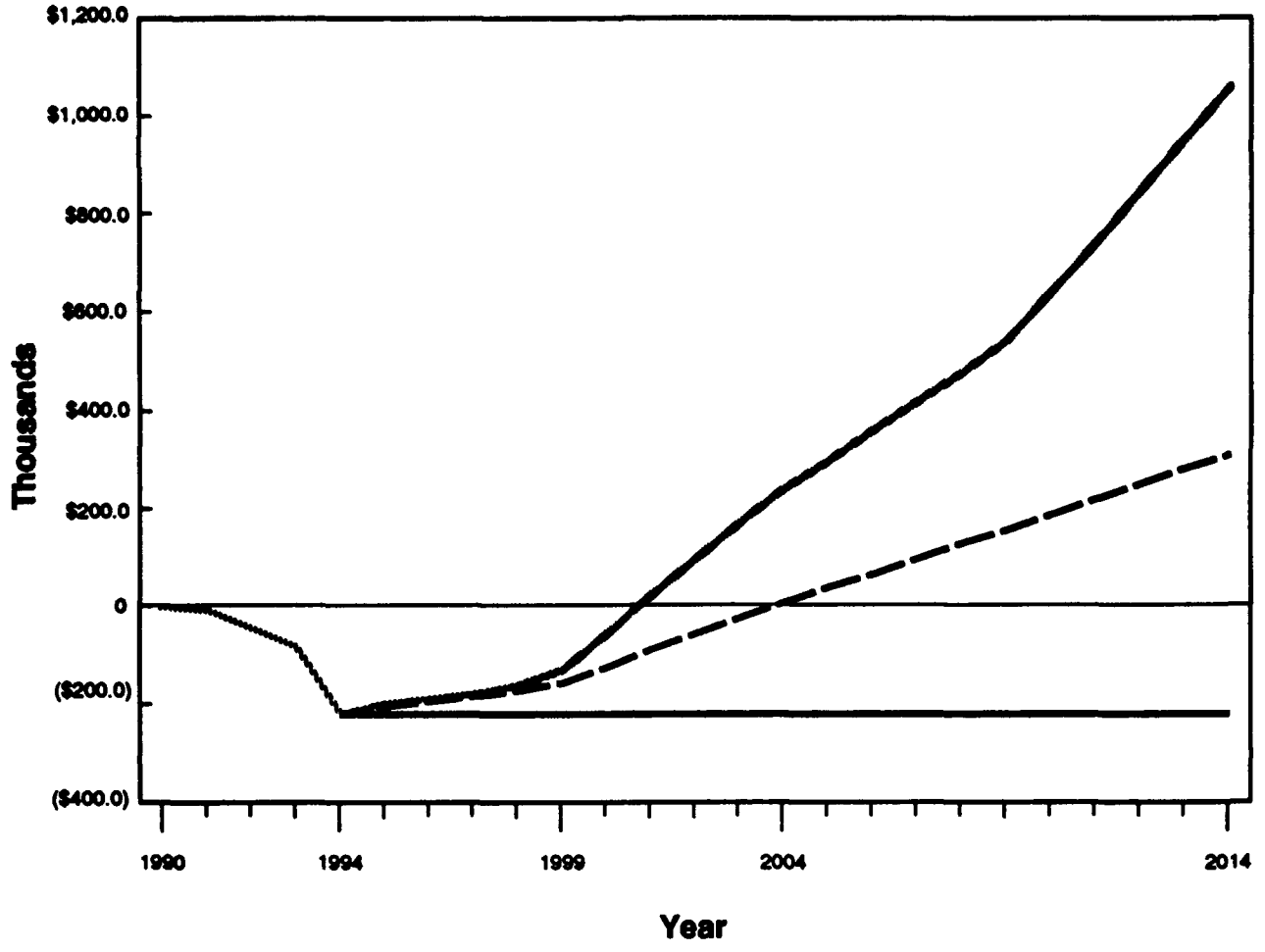
Revenues. Increased revenues to the general and special revenue funds would come from several sources. Property taxes would increase from conversion of a portion of the base to private use and population in-migration under this alternative is greater than the projected out-migration due to closure. Revenues from charges for services, other tax revenue, and intergovernmental revenue would increase as direct and secondary jobs attract in-migrants to the area. Increased general and special revenue fund revenues are projected to be $147,656 in FY 1999 and $2,078,448 by FY 2014.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in county residents are estimated to require $53,234 in increased expenditures in FY 1999 and $793,891 by FY 2014. Projected positive net fiscal effects would be $94,422 by FY 1999 and $1,284,557 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $217,123 (see Section 3.6) in the early years of reuse. From closure through FY 2000, the county would be faced with gradually declining deficits. These deficits may require some response by the county through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources to maintain a balanced fiscal position before FY 2001. By FY 2001, the positive fiscal effect of this alternative would offset projected deficits due to base closure.

4.6.1.2 Town of Bunker Hill. Fiscal effects of the Proposed Action on the town of Bunker Hill indicate an improvement over the post-closure scenario through FY 2014 (Figure 4.6-2).

Revenues. Increased general and special revenue fund revenues, principally from increased property taxes (due to projected population in-migration under this alternative greater than the out-migration projected for closure and conversion of a portion of the base to private use), fines and forfeits, and other taxes are projected to be $5,891 by FY 1999 and $125,586 by FY 2014.

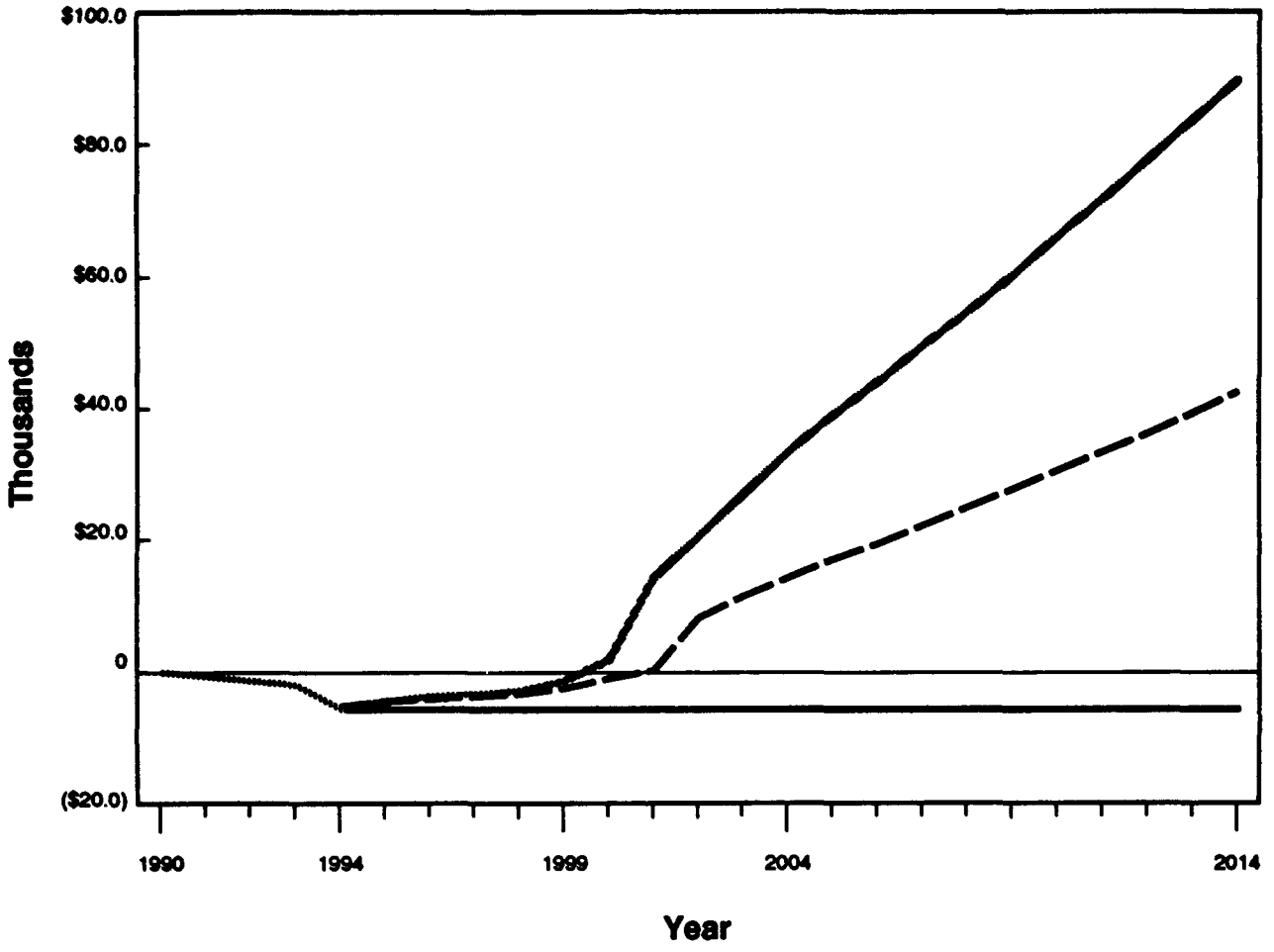


EXPLANATION

- Preclosure
- Proposed Action
- Joint Use Aviation Alternative
- No-Action/Post-Realignment

Miami County Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-1



EXPLANATION

- Preclosure
- Proposed Action
- Joint Use Aviation Alternative
- No-Action/Post-Realignment

Town of Bunker Hill Net Fiscal Projections, Proposed Action and Alternatives (1989$)

Figure 4.6-2

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in town residents are estimated to require $2,048 in increased expenditures by FY 1999 and $30,669 by FY 2014. Projected net positive fiscal effects would be $3,843 in FY 1999 and $94,917 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $4,928 (see Section 3.6) in the early years of reuse. From closure through FY 1999, the town would be faced with gradually declining deficits. These shortfalls may require some response by the town through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources to maintain a balanced fiscal position before 2000. By FY 2000, the positive fiscal effects of this alternative would offset projected deficits due to base closure.

4.6.1.3 City of Peru. Fiscal effects of the Proposed Action on the city of Peru indicate an improvement over the post-closure scenario through FY 2014 (Figure 4.6-3).

Revenues. Increased general and special revenue fund revenues, principally from increased property taxes (due to projected population in-migration under this alternative greater than the out-migration projected for closure) and intergovernmental revenue, are projected to be $29,380 by FY 1999 and $1,018,989 by FY 2014.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $27,007 in increased expenditures in FY 1999 and $401,879 by FY 2014. Projected positive net fiscal effects would be $2,373 in FY 1999 and $617,110 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $7,560 (see Section 3.6) in the early years of reuse. From closure to FY 2001, the city would be faced with gradually declining deficits. These shortfalls may require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, or development of new revenue sources to maintain a balanced fiscal position before 2002. By FY 2002, the positive fiscal effects of this alternative would offset projected deficits due to base closure.

4.6.1.4 Howard County. Fiscal effects of the Proposed Action on Howard County indicate an improvement over the post-closure scenario through FY 2014 (Figure 4.6-4).

Revenues. Increased general and special revenue fund revenues, principally from increased property taxes (due to projected population in-migration under this alternative greater than the out-migration projected for closure)

1999 and $1,542,325 by FY 2014. Corporation funding is principally from property taxes and state aid revenues. The property tax component of these increases is projected to be $843,691 by FY 2014 with the remainder of the increases attributable to state aid program revenues.

Expenditures and Net Fiscal Effects. Expenditure increases, principally from increased direct instruction costs, would be $80,624 by FY 1999 and $1,196,763 by FY 2014 for net revenue increases of $23,280 in FY 1999 and $345,562 in FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $1,529,960 (see Section 3.6). From closure through FY 2014, the corporation would be faced with gradually declining deficits ($1,506,681 in FY 1999 and $1,184,398 in FY 2014). This is due to the loss of P.L. 81-874 funds which are not replaced with state source revenue. If Section 3 transition entitlements are fully funded, these effects would be less severe and be apportioned in decreasing amounts over a 3-year period starting in FY 1995. Cutbacks in service levels and/or additional revenue from new revenue sources may be required to maintain a balanced fiscal position in the corporation.

4.6.1.7 Peru Community School Corporation. Fiscal effects of the Proposed Action on the Peru Community School Corporation indicate an improvement over the post-closure scenario through FY 2014 (Figure 4.6-7).

Revenues. Total general fund increases due to the additional students generated under the Proposed Action are projected to be approximately $111,200 in FY 1999 and $1,673,560 by FY 2014. Corporation funding is principally from property taxes and state aid revenues. Because no base land is located within the corporation boundaries, state aid program revenues would be the principle revenue source affected under this alternative.

Expenditures and Net Fiscal Effects. Expenditure increases, principally from increased direct instruction costs, would increase by $107,372 by FY 1999 and $1,615,949 by FY 2014 for net revenue increases of $3,828 in FY 1999 and $57,611 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $72,303 (see Section 3.6). From closure through FY 2014, the corporation would be faced with gradually declining deficits ($68,475 in FY 1999 and $14,692 in FY 2014). This is due to the loss of P.L. 81-874 funds which are not replaced with state source revenue. If Section 3 transition entitlements are fully funded, these effects would be less severe and be apportioned in decreasing amounts over a 3-year period starting in FY 1995. Cutbacks in service

levels and/or additional revenue from new revenue sources may be required to maintain a balanced fiscal position in the corporation.

4.6.1.8 Kokomo-Center Township Consolidated School Corporation. Fiscal effects of the Proposed Action on the Kokomo-Center Township Consolidated School Corporation indicate an improvement over the post-closure scenario through FY 2014 (Figure 4.6-8).

Revenues. Total general fund increases due to the additional students generated under the Proposed Action are projected to be $86,025 in FY 1999 and $1,311,021 by FY 2014. Corporation funding is principally from property taxes and state aid revenues. Because no base land is located within the corporation boundaries, state aid program revenues would be the principle revenue source affected under this alternative.

Expenditures and Net Fiscal Effects. Expenditure increases, principally from increased direct instruction costs, would increase by $83,874 by FY 1999 and $1,278,245 by FY 2014 for net revenue increases of $2,151 in FY 1999 and $32,776 in FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $25,119 (see Section 3.6) in the early years of reuse. From closure through FY 2010, the corporation would still be faced with gradually declining deficits. Cutbacks in service levels and/or additional revenue from new revenue sources may be required to maintain a balanced fiscal position in the corporation over this period. By 2011, the positive fiscal effect of this alternative would offset projected deficits due to closure.

4.6.2 Military/Joint Use Aviation Alternative

Key assumptions regarding future jurisdictional control of base property under this alternative, which influence the fiscal assessments, are presented below:

- The 192 acres designated for the aviation support uses would remain in public ownership and thus would not be subject to local property taxes.
- The 108 acres designated for industrial use and the 491 acres designated for commercial use would be sold to private interests and thus be subject to local property taxes.
- The 23 acres designated for institutional (educational) use are assumed to be sold to private interests and thus would be subject to local property taxes.

- The 293 acres designated for residential use would be sold to private interests and thus be subject to local property taxes.

- Approximately 91 acres of the 163 acres designated for public/recreation uses would be sold to private interests and be subject to property taxes while the remaining acreage would remain in public ownership and would not be subject to local property taxes.

- The 1,452 acres designated for military uses would remain as federal property and would not be subject to local property taxes.

4.6.2.1 Miami County. Fiscal effects of this alternative on Miami County indicate an improvement over the post-closure scenario through FY 2014.

Revenues. Increased revenues to the general and special revenue funds would come from several sources. Property taxes would increase from conversion of a portion of the base to private use. Charges for services, other tax revenue, and intergovernmental revenue would increase as direct and secondary jobs attract in-migrants to the area. Increased general and special revenue fund revenues are projected to be $112,567 in FY 1999 and $939,373 by FY 2014.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in county residents are estimated to require $44,674 in increased expenditures in FY 1999 and $404,621 by FY 2014. Projected positive net fiscal effects would be $67,893 by FY 1999 and $534,752 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $217,123 (see Section 3.6) in the early years of reuse. From closure through FY 2003, the county would be faced with gradually declining deficits. These deficits may require some response by the county through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources. By FY 2004, the positive fiscal effect of this alternative would offset projected deficits due to closure.

4.6.2.2 Town of Bunker Hill. Fiscal effects of this alternative on the town of Bunker Hill indicate an improvement over the post-closure scenario through FY 2014.

Revenues. Increased general and special revenue fund revenues, principally from increased property taxes (due to projected population in-migration under this alternative greater than the out-migration projected for closure and conversion of a portion of the base to private use), fines and forfeits, and other taxes are projected to be $4,603 by FY 1999 and $63,269 by FY 2014.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in town residents are estimated to require $1,725 in increased expenditures by FY 1999 and $15,739 by FY 2014. Projected net positive fiscal effects would be $2,878 in FY 1999 and $47,530 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $4,928 (see Section 3.6) in the early years of reuse. From closure through FY 2000, the town would be faced with gradually declining deficits. These shortfalls may require some response by the town through service cutbacks, increases in tax and non-tax revenue schedules, and/or development of new revenue sources. By FY 2001, the positive fiscal effects of this alternative would offset projected deficits due to base closure.

4.6.2.3 City of Peru. Fiscal effects of this alternative on the city of Peru indicate an improvement over the post-closure scenario through FY 2014.

Revenues. Increased general and special revenue fund revenues, principally from increased property taxes (due to projected population in-migration under this alternative greater than the out-migration projected for closure) and intergovernmental revenue, are projected to be $24,570 by FY 1999 and $519,645 by FY 2014.

Expenditures and Net Fiscal Effects. Service demands as a result of the increase in city residents are estimated to require $22,586 in increased expenditures in FY 1999 and $204,943 by FY 2014. Projected positive net fiscal effects would be $1,984 in FY 1999 and $314,702 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $7,560 (see Section 3.6) in the early years of reuse. From closure to FY 2004, the city would be faced with gradually declining deficits. These shortfalls may require some response by the city through service cutbacks, increases in tax and non-tax revenue schedules, or development of new revenue sources. By FY 2005, the positive fiscal effects of this alternative would offset projected deficits due to base closure.

4.6.2.4 Howard County. Fiscal effects of this alternative on Howard County indicate an improvement over the post-closure scenario through FY 2014.

Revenues. Total general fund increases due to the additional students generated under this alternative are projected to be $87,669 in FY 1999 and $782,527 by FY 2014. Corporation funding is principally from property taxes and state aid revenues. The property tax component of these increases is projected to be $417,725 by FY 2014 with the remainder of the increases attributable to state aid program revenues.

Expenditures and Net Fiscal Effects. Expenditure increases, principally from increased direct instruction costs, would be $68,027 by FY 1999 and $607,200 by FY 2014 for net revenue increases of $19,642 in FY 1999 and $175,327 in FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $1,529,960 (see Section 3.6). From closure through FY 2014, the corporation would be faced with gradually declining deficits ($1,510,318 in FY 1999 and $1,354,633 in FY 2014). This is due to the loss of P.L. 81-874 funds which are not replaced with state source revenue. If Section 3 transition entitlements are fully funded, these effects would be less severe and be apportioned in decreasing amounts over a 3-year period starting in FY 1995. Cutbacks in service levels and/or additional revenue from new revenue sources may be required to maintain a balanced fiscal position in the corporation.

4.6.2.7 Peru Community School Corporation. Fiscal effects of this alternative on the Peru Community School Corporation indicate an improvement over the post-closure scenario through FY 2014.

Revenues. Total general fund increases due to the additional students generated under this alternative are projected to be approximately $94,520 in FY 1999 and $845,120 by FY 2014. Corporation funding is principally from property taxes and state aid revenues. Because no base property is located within the corporation's boundaries, state aid program revenues would be the principal revenue source affected under this alternative.

Expenditures and Net Fiscal Effects. Expenditure increases, principally from increased direct instruction costs, would increase by $91,266 by FY 1999 and $816,027 by FY 2014 for net revenue increases of $3,254 in FY 1999 and $29,093 by FY 2014.

Comparison to Closure Conditions. The net revenue increases would not be sufficient to offset projected closure deficits of $72,303 (see Section 3.6). From closure through FY 2014, the corporation would be faced with gradually declining deficits ($69,049 in FY 1999 and $43,210 in FY 2014). This is due to the loss of P.L. 81-874 funds, which are not replaced with state source revenue. If Section 3 transition entitlements are fully funded, these effects would be less severe and be apportioned in decreasing amounts over a 3-year period starting in FY 1995. Cutbacks in service

Based on the reuse development schedule for each land use, the total vehicle trips generated by on-site activities over time were determined. The analysis focused on the weekday afternoon peak hour vehicle trips.

The distribution of reuse-generated trips to and from the site is based on existing travel patterns for commuters and on the locations of residences of civilian base personnel as obtained from zip code data. It was assumed that the residential choices of the project-related employees would correspond to those of the civilian base personnel. Then, trips were assigned to appropriate routes based on the trips distribution, the existing roadways, and access points. The resulting reuse-related peak-hour volumes from the project were then added to the peak hour of non-project-generated traffic (background) projected under post-closure baseline conditions. Future non-reuse related traffic was projected using a 1 percent annual traffic growth rate during the 20-year period of analysis, applied to all traffic volumes on key roads.

Traffic effects were determined based on LOS changes for each of the key roads. Intersections along key roads that would experience heavy traffic were examined for deficiencies. Details on reuse are not sufficiently developed to permit an in-depth evaluation of intersection levels of service.

The Proposed Action and the Military/Joint Use Aviation Alternative assume that existing on-base roads would be used during the construction period, and eventually the on-base network would be upgraded and extended where local development plans dictate a need based on community objectives and standards.

With Grissom AFB closed and in caretaker status, afternoon peak-hour traffic volume by 2014 is projected to be 2,200 vehicles on U.S. 31 in the vicinity of the Main Gate, and 1,100 vehicles on Old U.S. 31 in the vicinity of U.S. 31. This would bring operating conditions on Old U.S. 31 to LOS D or better by 2014. All other key road segments (including U.S. 31 segments) would operate at LOS B or better during the period of analysis.

4.7.1 Proposed Action

Roadways. Peak hour traffic generated under the Proposed Action includes industrial, commercial/retail and associated construction activity as well as traffic generated by the 434th Wing. Based on the proposed reuse schedule, the number of peak-hour trips generated by the Proposed Action would increase steadily during the 20-year analysis period, and in 2014 total approximately 59,000 average daily vehicle trips.

These peak hour trips would be distributed to the key roads from ten access points; the six gates; and four new access points (two on U.S. 31 and two on 850 South Road).

Regional. By 2014, traffic resulting from the Proposed Action would increase the afternoon peak hour traffic on U.S. 31 between 800 South Road and Old U.S. 31 by approximately 2,700 vehicles over post-closure conditions in 2014. This increase would degrade the projected operating conditions on all segments of U.S. 31 to LOS D by the year 2010 as compared to LOS A at closure. All other key regional road segments would continue to operate at LOS C or better.

Local. Traffic generated by reuse on both two-lane segments of Old U.S. 31 (U.S. 31 to 225 South Road and 225 South to West River Road) would increase the afternoon peak hour volumes over the 2014 post-closure conditions by 1,900 and 1,550 vehicles, respectively. This increase would cause Old U.S. 31 on these segments to operate at LOS F by 2011.

Under the Proposed Action, traffic generated by reuse would increase the afternoon peak hour traffic on SH 218 (Jct. West) between 400 West Road and U.S. 31 by 1,150 vehicles over the 2014 post-closure conditions, resulting in LOS E by 2011.

With or without reuse, all other key local road segments would operate at LOS C or better throughout the period of analysis.

Air Transportation. The Proposed Action includes the continued use of the airfield by the 434th Wing and military transient aircraft, the same as closure conditions.

The Proposed Action does not include commercial passenger of air cargo services at Grissom AFB. These services at other facilities in the state would be unchanged from closure baseline.

Other Transportation Modes. Effects to rail service would be minimal as the Proposed Action assumes no direct use of local railroads.

4.7.2 Military/Joint Use Aviation Alternative

Roadways. Peak hour traffic generated under the Military/Joint Use Aviation Alternative includes aviation, industrial, commercial/retail, and residential land uses and associated construction activity. In addition, minimal traffic is generated by the 434th Wing. Based upon the proposed reuse schedule, the number of peak-hour trips generated by the Military/Joint Use Aviation Alternative would increase steadily during the 20-year analysis period and in 2014 total approximately 33,000 average daily trips.

These peak hour trips would be distributed to the key roads from ten access points: the six gates, and four new access points (two on U.S. 31 and two on 850 South Road).

MWH/day at preclosure to 539 MWH/day at closure, and then increase to 555.1 MWH/day by 2014; and natural gas consumption in the ROI would decrease from 37,900 therms/day at preclosure to 29,600 therms/day at closure, and then increase to 30,500 therms/day by 2014.

Under the Proposed Action, the ROI utility demands would increase gradually during the period of analysis. Water and wastewater demands would remain below the 1990 preclosure levels but solid waste, electricity and natural gas demands would exceed the 1990 preclosure by 2014. Under the Military/Joint Use Aviation Alternative, all utility demands would increase slightly throughout the period of analysis, but would remain less than or approximately equal to 1990 preclosure levels.

The Proposed Action would generate the highest utility demands both in the ROI and on-site and would increase appreciably the demand for electricity and natural gas when compared to the Military/Joint Use Aviation Alternative.

4.8.1 Proposed Action

A summary of regional utility demand changes associated with the Proposed Action is shown in Table 4.8-1. Under the Proposed Action, the ROI demand for water, wastewater, solid waste, electricity, and natural gas would increase by less than 5 percent of the demand projected under post-closure conditions through 1999. By 2014, increases in utility demand associated with the Proposed Action would range from 32 to 77 percent over projected post-closure conditions in 2014.

4.8.2 Military/Joint Use Aviation Alternative

A summary of regional utility demand changes associated with the Military/Joint Use Aviation Alternative is shown in Table 4.8-1. Under this alternative, the ROI utility demand would increase by less than 4 percent of the demand projected under post-closure conditions through 1999. By 2014, increases in utility demand from this reuse alternative would range from 16 to 31 percent over projected post-closure conditions.

4.8.3 No-Action Alternative

Utility effects for the No-Action Alternative would be those described at the beginning of Section 4.8, and in Section 3.8 as closure conditions.

4.9 OTHER LAND USE CONCEPTS

This study includes an in-depth analysis only for those reuse options that, as a whole, provide an integrated plan for future site redevelopment. The other land use concept described in Section 1.4.4 could occur on an

individual basis or in combination with one of the reuse alternatives and would, therefore, selectively enhance or detract from site redevelopment. A descriptive treatment of the potential effects is presented in this section (and summarized in Table 4.9-1).

State of Indiana Public Safety Training Institute. The state of Indiana has requested approximately 120 acres. Direct employment is estimated at 75 instructors. This represents a reduction of 98 direct employees from the Proposed Action reuse of the same area and a decrease of 7 direct employees from the Military/Joint Use Aviation Alternative.

As on-site employment (and thus earnings) is changed by the independent proposal, local and regional secondary employment effects of the alternatives would change, including non-payroll spending associated with the independent proposal compared to displaced industrial or commercial endeavors, construction costs among the various land uses, and the propensity to consume local goods and services by employees and occupants of the proposed facilities compared to those displaced.

Table 4.9-1. Socioeconomic Effects of Other Land Use Concepts

Agency/Proposal	Employment/Population	Alternative	Change in Reuse Plan
State of Indiana Public Safety Training Institute	75 direct jobs	Proposed Action	Reduced industrial development (by 20 acres) Reduced institutional use (by 15 acres) Reduced commercial land (by 56 acres) Net decrease of 98 on-site jobs, 77 secondary jobs, and 163 migratory population
		Military/Joint Use Aviation	Reduced aviation support use (by 1 acre) Reduced institutional use (by 15 acres) Reduced commercial land (by 60 acres) Reduced public/recreation land (by 15 acres) Net decrease of 7 on-site jobs, 3 secondary jobs, and 11 migratory population

ACRONYMS/ABBREVIATIONS

AFB	Air Force Base
CHAMPUS	Civilian Health and Medical Program of the Uniformed Services
CZ	clear zone
DBCRA	Defense Base Closure and Realignment Act
DOD	Department of Defense
EIS	Environmental Impact Statement
ERIS	Economic Resource Impact Statement
FAA	Federal Aviation Administration
FTE	full time equivalent
FY	fiscal year
GRA	Grissom Redevelopment Authority
Jct	junction
LOS	level of service
MGD	million gallons per day
MWH	megawatt-hours
NCO	Noncommissioned Officer
NEPA	National Environmental Policy Act
NIPSCO	Northern Indiana Public Service Company
OL	operating location
PHV	peak hour vehicle
P.L.	Public Law
PSI Energy	Public Service Company of Indiana
RN	registered nurse
ROI	Region of Influence
SH	State Highway
SIAS	Socioeconomic Impact Analysis Study
TLF	temporary lodging facility
U.S. #	U.S. Highway
VA	Veterans Administration
VPH	vehicles per hour
WSA	weapons storage area
WWTP	wastewater treatment plant